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The **NORTH CENTRAL
ASSOCIATION
QUARTERLY**

Association Notes and Editorial Comments

The Secondary School in American Democracy

Report of the President's Commission on Higher
Education

Expanding Role of Research in Education

Better Education of College Teachers

Statistical Information Concerning Secondary
Schools, 1947-48

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THE NORTH CENTRAL ASSOCIATION QUARTERLY

*The Official Organ of the North Central Association of Colleges
and Secondary Schools*

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ASSOCIATION NOTES AND EDITORIAL COMMENTS

OUR HIGH SCHOOLS MUST HAVE MORE MEN TEACHERS!— A PROGRAM

SCHOOL administrators are acutely aware of the need for more men in our public schools. Since 1880 when forty-three of each hundred teachers were men, the emasculation of the public schools has progressed with only a few interruptions.

In 1920, following World War I, Office of Education statistics show that the percentage of men reached a low of fourteen, increased to twenty-two by 1940 when ten years of depression even made teaching salaries attractive to some men, and now, with the wage boom of World War II still drawing men from their teaching jobs, the proportion has dropped to thirteen, an all time low. Of these thirteen not more than ten have classroom duties because the number also includes some 95 percent of school administrators.

But why not let the women do all the teaching?, some may ask. The sociologist and the psychiatrist have a word there. They say that young boys see entirely too much of women during the first eighteen years of their lives. Fathers are away from home during the day and at night they are tired. Only farm boys really have fathers and their training shows the fact.

When boys are very young the mother's care seems to be all that is needed, but when they reach adolescence the female hand seems only to aggravate the problems of growing into manhood. At school it is the same.

"Boys give five times as much trouble as girls" is an expression by which the mother and the elementary school teacher admit their lack of understanding of adolescent boys. It is not easy to turn boys of this age into girls, but with so many mothers and teachers working hard at the task it is not surprising that in some instances, as psychiatrists will tell you, waiving a few unimportant biological details, they are completely successful.

You know, of course, that the great majority of our elementary schools have not a man in the place. Even the architect commonly overlooks the possible presence of an adult male in the elementary school building.

When young John reaches high school it is high time he encounters male instructors. Whether he does so or not depends on the school he attends. Unfortunately, it happens too often that about the time his mother finds young John is getting difficult to handle and appeals to the father for help, John's teachers in high school—four out of five are women, you know—have already put him down as a problem child. Have you noticed that 95 percent of the school "problem cases" are boys?—An odd fact when you consider that goodness is not an attribute of any one of the sexes!

Should John become too tough for the women to handle his parents may send him to a private school, a military school perhaps, where his teachers will be men exclusively. Or he may enter the army or navy and again find only

men instructors in the service schools he must attend. In either instance, John seldom remains a problem.

As you would expect, the more manly boys of this age are first to rebel against the feminine routines imposed on them by their mothers and female teachers. Bright boys show their revolt by working at half capacity. They are "lazy." Many leave school altogether.

Not so the girls. They conform and are pronounced "good" by their teachers. They work hardest and get the best marks. Why shouldn't they? They are being skillfully prepared for adult womanhood—and so are the boys in their classes. The whole problem boils down to the fact that successful teachers of 'teen-age boys must be leaders, capable of inspiring their young charges to masculine achievement. Be sure that the young buck who is just beginning to feel his oats is not looking for leadership in women.

If you know some young fellow who has been brought up by his grandmother, or by maiden aunts with no men in the family group, you have an accurate picture of what is happening to our youth on a large scale in the public schools. Army life and its complete association with men came as a shock to millions of boys who had been reared by women.

In a letter to the writer, Dr. Edward A. Strecker, celebrated psychiatrist, who heads the Department of Psychiatry, College of Medicine, University of Pennsylvania, expressed the belief that the absence of masculine direction during their school years was a primary cause of disabling psychoneuroses in more than three millions of our young men who were called abruptly from their homes into the military services. He writes, "—the male teacher is the first and legitimate surrogate for the father. Just as there are certain contributions that the mother cannot make in the emotional-

psychological developmental processes of boys, so likewise the woman teacher cannot make them. If they are made at all, they must be made by male instructors. If they are not made, then important pathways leading to the goal of maturity are blocked. . . . No expediency of school finances will justify the irreparable loss to the boys, to their mothers and fathers, and to the nation unless the normal supply of men teachers is restored and maintained."

This situation is recognized and appreciated by school heads generally, and except for the occasional principal or superintendent who seeks to avoid the rivalry of having other capable schoolmen within his organization, they do everything possible to increase the number of men on their staffs.

The common goal sought for the high schools is at least equal proportions of men and women teachers. An excellent article in *School and Society* by the late Eston V. Tubbs justifies this position as follows: "In the home there is equal representation of the sexes in the two parents. This is the natural environmental situation for children to grow to young manhood and womanhood. It would seem only logical that in our schools there should be at least an approximation of the same balance between men and women teachers of adolescents as prevails in the home."¹

Of course, there is a great deal of ready-made opposition to the plan. A few leaders of women's organizations see a loss of prestige in admitting that the education of adolescent boys cannot safely remain so exclusively in the hands of women teachers. Not ready to concede that their struggle for *equal rights* may not have been too successful in the schools, they will not give up their advantage voluntarily.

¹ *School and Society*, June 1, 1946, p. 394.

Also at issue is the "equal pay for equal work" formula. Feminist leaders will admit that little progress has been made in securing equal pay for women in business and industry, but cling to the belief that a crusade on this issue in the public schools, where women have majority control, will win higher wages for all women workers. Such reasoning appears unsound, however, when one considers that the primary cause for low school salaries through the years has been the large surplus of educated women always ready and anxious to take these low-paid jobs in the schools rather than accept even lower pay in business or industry. Indeed, it seems very doubtful that men's wages, the goal of the feminist, will ever prevail in the teaching profession until a large proportion of teachers are men.

Confusing to the public, furthermore, is the wavering attitude of a few educators who are heads of national teacher groups but hesitate to take a forthright position on this issue because of the predominance of women in their membership.

These are all obstacles, to be sure, but they must and will be surmounted in the best interests of the schools and of the whole teaching profession. Three methods of solution present themselves:

1. General adoption of family allowances for dependents of teachers.

A research bulletin of the National Education Association, dated March, 1947, lists more than one hundred cities of the United States in which dependency allowances are already being paid.² About half of them make such payments to men teachers only, the others to both men and women who are heads of families. Either plan greatly encourages the employment of men instructors. School men have four times as many dependents as have women teachers.

A portion of the list of municipalities follows:

² Discussion Pamphlet No. 8, N.E.A., March, 1947.

<i>Massachusetts</i>	<i>Wisconsin</i>
Springfield	Cudahy
Brockton	Oshkosh
Dedham	Racine
Easthampton	Sheboygan
Auburn	Superior
Wellesley	Waukesha
<i>Minnesota</i>	<i>Illinois</i>
Austin	Canton
Ely	East Moline
Rochester	Hinsdale
St. Cloud	Quincy
Stillwater	Riverside
Virginia	Winnetka

These are only representative of the progressive communities listed.

2. Wider acceptance of the plan of teacher appointment now used in New York City. (Sixty percent of teachers in New York public high schools are men.)

The plan is described in a letter addressed to the writer from the Office of the Superintendent of Schools, New York: "... all our teaching positions are filled from eligible lists promulgated as a result of open competitive examinations. The eligible lists are separated into two lists; one for men and one for women. It is, therefore, possible to fill a teaching vacancy by the appointment of a man or woman teacher. The recommendations of the heads of schools are invariably accepted."

The New York plan is identical with that of many cities which make no pretense of maintaining eligible lists.

3. A strong position on the part of accrediting agencies whereby, after a suitable warning period, each accredited high school must show that 50 percent of its teaching personnel is composed of men.

It is the writer's opinion that all three plans must be used if the teaching profession is to reestablish itself as suitable employment for young men of ability who have the normal desire to marry and bring up their families in decent comfort. The public schools are under no obligation to provide employment or asylum for celibates or other maladjusted persons, but will continue to draw them in large majority unless special inducement is offered to ambitious young men actually to compete for jobs in the schools. School

positions must not continue to go by default to the less able.

HERSCHEL N. SCOTT
Lane Technical High School
Chicago, Illinois

ACTIVITIES OF THE MICHIGAN STATE COMMITTEE

It has been customary for the Michigan State Committee to arrange a meeting of the North Central administrators of Michigan in conjunction with the sessions of the Michigan Secondary School Association. The fifth annual meeting of North Central Administrators was held on December 1 at the Hotel Olds in Lansing from 8 to 10 P.M. The meeting this year featured a discussion of the new North Central Association library regulations. Since the problem involves the cooperation of teacher training institutions, representatives of the colleges and of the Michigan State Library were asked to participate. The meeting took the form of a panel discussion on "Meeting the New Library Regulations of the North Central Association in Michigan." Participants on the panel were:

Richard J. Jurley, Assistant Professor of Library Science, University of Michigan, *Chairman*.
Louise Rees, School Library Consultant, Michigan State Library

Alice Louise Lefevre, Director of the Department of Library Science, Western Michigan College of Education.

Charles V. Park, Librarian, Central Michigan College of Education.

G. R. Gibson, Superintendent, Lawton, Michigan, (representing a small school.)

Omer P. Bartow, Principal, Marysville (Michigan) High School (representing a medium-sized school.)

Edward E. Edick, Principal, Senior High School, Escanaba, Michigan (representing a large school.)

Following the discussion by panel members, questions and comments were made from the floor. It was apparent that the new regulations will call for the most active concern on the part of both secondary schools and teacher training institutions if the schools in Michigan are to meet the regulation completely by 1955-56. The following suggestions grew out of the discussion:

1. Schools should take steps now looking toward meeting the regulations at the earliest possible moment.
2. In most cases, the best plan will probably be to encourage a successful teacher—one interested in young people and in books—to take the necessary technical preparation to qualify as a librarian or teacher-librarian.
3. Principals and superintendents should inform themselves of the resources for training in library work in the Michigan teacher training institutions and the persons available for employment.
4. In view of the shortage of qualified personnel, it is imperative that administrators be concerned to make the position attractive both financially and in status and conditions of work.

A major concern of the State Committee in Michigan has been helping schools to prepare to use the report form (A-3) for the special study of Criterion I in such a way as to be of most service to the school in understanding its own community. To this end the State Committee held an all-day meeting August 27 to discuss the new report forms in detail and to consider ways in which service to the schools could be rendered most effectively. As a result of this meeting, a series of all-day "clinics" on the report

forms was arranged. Five of these were scheduled for different sections of the state originally, and two additional "clinics" were added when it was evident that a number of North Central administrators did not get report forms in time to plan attendance at the meetings. At each of these "clinics" a member of the State Committee as indicated below, took charge and served as discussion leader.

September 15, Rackham Building, Detroit, Owen Emmons

September 21, Mt. Pleasant, Michigan, Edgar Johnston

September 22, Kalamazoo, Michigan, Norris Wiltse

September 29, Escanaba, Michigan, Leon Waskin

October 6, East Lansing, Michigan, John S. Page

October 13, Detroit, Michigan, Owen Emmons

October 22, Grand Rapids, Michigan, Edgar Johnston

Each of the "clinics" involved a presentation of the new "Policies, Regulations and Criteria" in some detail and discussion of each of the report forms. Ample opportunity was given for questions, and the meetings seemed to meet a definite need in clarifying the purpose of the report forms and procedures to be followed. The greater portion of the time was spent on the special study reported on Form A-3. While a few administrators expressed some concern at the length of the special report form and the work involved in completing it, the State Committee was encouraged by the enthusiasm shown for the report by teachers and administrators. For the most part, it is evident that schools are utilizing this form—as intended by the Commission—as a means of becoming better acquainted with the pupils enrolled in their schools and with the community they serve.

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THE CHALLENGE OF PRESENT-DAY LIVING IN THE SECONDARY SCHOOL¹

ROBERT S. GILCHRIST

The Public Schools, Minneapolis, Minnesota

THE program this morning is a rather complete one with six different speakers. My assignment is to introduce, in an over-all way, the problem before us so that the five individuals who follow me on different specific phases of the problem may complete the picture. I believe it was Kilpatrick who said that if you are ever going to get real control of a part of a problem, you must see the over-all picture with some degree of wholeness, making it easier to find the relationship between the different parts.

I am not going to stop very long on why there are such great demands on us as school administrators today. Many of you had these demands brought to your attention at Atlantic City. We realize that we are living in an age when the problems facing us are stupendous. We who are here today have an opportunity and a very heavy responsibility to give leadership in our schools to the end that education serves the society which has founded it.

Let us pause for just a moment to mention some of the problems. One of them is in the field of health. More than four million men were rejected by the armed forces in World War II because of physical or emotional handicaps. Another problem lies in the area of family living. Nearly half of the families in America have no children. Another large group has only one child in each family. We in America don't seem to think that family life

has in it the satisfactions and the happiness which are necessary if home is to be a nuclear center for a family group.

Or, take the world of work. The situation now is very different from the day when boys and girls were told by their parents at home what their steps in life would be in order to earn a living. Today we have come to realize that our boys and girls not only need to have a chance to develop salable skills when they are in school, but they also need to have opportunities to acquire new skills as life changes and makes new demands on them. Then, take leisure living. Boys and girls have time on their hands. Are we in the schools doing anything to help them know how to use that time profitably?

The biggest problem of all—the one that terrifies us the most—is citizenship. Are our schools in any way measuring up to the high obligations we need to assume in preparing these boys and girls to live in an age where we must put world citizenship first and place our national loyalties and our community participation in a setting contributing to world citizenship?

Dean Melby summarized rather succinctly at Atlantic City the demands that our times make upon the schools. He said, "The very foundations of our free institutions are in danger. Our free society cannot possibly survive unless important changes take place in our individual and collective behavior. Freedom is fighting a last ditch battle in the world and is desperately in need of a new and invigorating education which will plant it firmly in the minds and hearts of our children; give them

¹ This address and the five others which immediately follow constitute a discussion of the theme, "The Role of the Secondary School in American Democracy," which was conducted by the Commission on Secondary Schools in Chicago, March 10, 1948.

vigorous experience in its practice."

Accepting the fact that you and I agree we have a heavy responsibility as school administrators, what are we going to do about it? What have we been doing about it? We have some fairly good designs for secondary education to which we can turn. You and I have read "Planning for All American Youth" and "Education for All American Youth." We know about the Prosser Resolution and the work of the Life Adjustment Education Commission which the Office of Education has recently appointed. Many of us have read the March, 1947, issue of the *Secondary-School Principals Bulletin* in which practices to meet the imperative needs of youth are described that are carried on in at least some of our secondary schools.

Last December I wrote to twenty-four presidents of Secondary School Principal Associations throughout the country and asked them the question, "How successful are the schools of your state in meeting the imperative needs of youth?" Their answers include encouraging developments. There is more driver training than ever before; there are more cooperative programs. Indications are that the schools are trying to do something in the area of human relations. In a few situations administrators are seriously examining their practices. For instance, in some cities in New York State, the regents examinations have been shifted down from the end of the twelfth grade to the end of the eleventh grade so that in the last year in high school the youngsters can get at something that is related to their living. In Michigan the schools have made an agreement whereby some of the colleges and universities admit students in terms of the recommendations of the high school faculties.

Yes, there is a little evidence of prog-

ress, but several of the principals who replied said, "I am discouraged." Some said, "We aren't moving fast enough. We are moving at a snail's pace compared to the rate we should be going if we are to meet the needs of the boys and girls for the world in which they are now living and will be living in the future." I have tried to analyze why it is that we in the schools move so slowly. It has been said that it takes at least fifty years for a new function of the school to be accepted by educators and to be put in practice. In addition we often keep a practice fifty years or more after the purpose for which it was started no longer exists.

If you agree with me that we are not progressing fast enough, let us examine the problem. Here, in my opinion, are some of the clues to our troubles. First we still think we have only a part of the boys and girls to educate; we cannot accustom ourselves to the fact that today we have all of the boys and girls to consider. Next, we have been slow to realize that our times are different from those of fifteen, twenty, and twenty-five years ago and that some of the experiences that were necessary in the schools then are not needed now. We do not want to accept the fact that psychology of learning has advanced. We have been reluctant to acknowledge that automatic transfer of training does not occur and that mental discipline cannot be a justification for our practices. Our curriculum still comes largely from textbooks and state courses of study. Teachers still teach in terms of the preparation that they had when they went to college.

As I see it, the only way that American secondary schools can meet the needs of our times is to select the curriculum on an entirely different basis. We must study the community where the boys and girls live, study the boys and girls themselves and see what their

developmental needs are, and then make a curriculum using the resources of textbook writers, curriculum leaders, and whatever other aids we can discover. We must always recognize that the curriculum that counts is the experiences in the classroom. Too often we have been satisfied with a curriculum based on a course of study or textbook with seemingly good content.

In my opinion there are two essential characteristics which American secondary education should acquire if it is to move forward. One of them is to give the teachers the opportunity and the responsibility to make the curriculum; the other is that principals assume a leadership role in curriculum development. Most principals in the past have done little to improve the curriculum of their schools.

There are several accompanying factors that must be considered: To begin with, the principals, you and I, must have more courage than we have shown in the past. Norman Thomas once said, "Teachers are scared rabbits." If he compares teachers to scared rabbits I wonder what he would have called us as administrators. Some of us have paid too much attention to which way the wind was blowing, have become worried when we had a few telephone calls. We have discouraged teachers when they were doing something original that might cause parental criticism. We have been satisfied to keep the lid on.

The opportunities for educational leadership of the principal and the superintendent are unlimited. We need to exert courageous and aggressive leadership in which we, together with our teachers, develop better schools. We cannot be subject to each little pressure group that comes along. We will have to develop new "know-hows," too. In college, you and I weren't trained to lead in curriculum develop-

ment. We were trained to see that we had good baccalaureate programs, inspiring commencements, winning football teams, or orderly halls. Curriculum development is a new area to many of us. It is a field where we must give ourselves some in-service education. In our role as leaders, we must be able to guide group thinking. If we can be good discussion leaders with our faculties and have faith in the ability of our teachers, we will go a long, long way. You and I need to learn how to lead people and to stimulate them in their own thinking.

There are other ways in which we should take the leadership. Teachers must be allowed time to make the curriculum and the public has to realize they need this time. Substitutes must be employed to replace teachers who have a job to do that takes several days or weeks. Summer workshops and in-service courses of one kind or another must be organized so that when teachers become cognizant of a problem and want to work on it, an opportunity is provided.

If we principals accept this new leadership obligation and permit teachers to develop the curriculum, I predict several things will happen to the curriculum of the secondary schools. Perhaps they have already happened in your school. I believe the faculty will develop a purpose-centered school. We have been satisfied long enough with objectives that are only written on paper. It is high time our schools have programs that operate in terms of the purposes the faculty have agreed upon as important. If developing world understanding, improving human relationships, living together democratically, conserving natural resources are important purposes of a school, they must get into the lifeblood of the curriculum. These objectives have to be in our thinking constantly and guide us

when we start deciding on the experiences which will make up the curriculum.

So far, in most schools, purposes do not guide us. We subscribe theoretically to high sounding goals and then are completely satisfied to continue operating a school that has little relation to the purposes we have set up. In order that our purposes give direction to our program, we need to say in simple language what behavior characteristics we want the graduates of the secondary school to possess when they leave the school. We will then sense that we cannot be happy about subject matter outcomes only; we have to translate them into the behavior of boys and girls. Behavior is the outward manifestation of attitudes, beliefs, and values and this behavior is what really counts. A description of the products of our school in terms of the behaviors we think are necessary for democratic living should be developed by the faculty. This ought to give guidance to our program.

Then, it seems to me, the faculty is ready to go to work on deciding the experiences which the curriculum should include. When they start this work they are immediately going to ask, "What criteria are we going to use? What standards are we going to use for deciding which experiences are most essential?"

These criteria can best be developed by studying adolescents and their developmental needs and the demands that life is making on young people today. They will also have to become students of how learning takes place. What brings about behavior change? If a faculty has a plan in which it is constantly studying the developmental needs of boys and girls and understanding the youngsters that go to their school, if they are constantly studying the home living, the community living,

the leisure time living, the health, the work opportunities of their community and their world, then I think they have the raw materials out of which to make decisions as to what the curriculum ought to be. Boys and girls will then have the opportunity to study boy-girl relationships, conservation of natural resources, our American heritage, the need for understanding, and comparable problem areas.

After determining the problem areas or "musts" for the curriculum, I think the faculty will sense that the day is past when a person can teach for one outcome only. A teacher must, while he is instructing a group of youngsters, whatever the subject is, also be creating an environment that is conducive to the best total development of boys and girls. Therefore, every teacher is a health teacher. Every teacher is either encouraging or discouraging youngsters to live more democratically. Every teacher is either encouraging the youngsters to respect the dignity and personality of other human beings, or doing nothing about it. He is helping children to learn to read on a higher level or he ignores reading growth possibilities. So, along with deciding what problem areas the youngsters ought to have a chance to study, teachers will decide the areas in which everybody must give continuous emphasis. They will agree that whatever a person teaches or wherever he is in the building, he is going to see that conditions are conducive to positive development in living together democratically and the other outcomes agreed upon.

After the faculty has done these two things, determined the problem areas and agreed upon the continuous emphases, there are other changes they may decide to make. I think the school would move rather quickly into a time when it would have physical education for all boys and girls every day. Having

recognized the fact that boys and girls should have a chance for creative experience in their total school curriculum, we would start having creative activity for all boys and girls every year instead of providing a room for fine arts on the third floor for a few of the youngsters who are already good artists, and having a shop in the basement for those who can't succeed in the academic program.

Rather soon we would change our marking system. We have gone far enough in letting some of our bright youngsters coast through school getting A's and B's with half an effort and permitting some of the students who do not fit into the mold of our curriculum as it is now, fail. Some of you have already moved out of the grading rut, but most of us have not.

We should do away with the term "academic subjects" which is more confusing than any other one single term we use. Social studies can be used as an illustration. Most people think of this as an academic subject. Academic is associated with college preparation. All youngsters are required to take social studies but the content is college preparatory in nature. College preparatory subjects should be termed vocational subjects. Social studies, English, and other subjects required of all should be called general education and should include experiences which are of value to all boys and girls.

During the war years, we were complimented as secondary school principals and administrators for gearing our schools into a wartime program.

James once wrote a book entitled, *The Moral Equivalent of War*. So far, I have not been able to sense that anyone has found that moral equivalent for war, but it seems to me if any group in America has a challenge to find a moral equivalent of war, it is those of us who are in secondary school administrative positions. Surely, these boys and girls coming to our high schools now deserve just as much of a break as the boys and girls who came to us during the war years. The problems now are as complicated or more so than they were in the war years. This is a time for greatness for secondary school administrators. During these years when the world is in such a muddle and when our own country and our own communities are having problems which are stupendous, I would like to see us rise to a height where we do two things. First, have faith in the teachers with whom we work. Let us turn over to them the curriculum development program because they are the ones dealing with the boys and girls. Why not improve the curriculum of our schools by placing teachers in the responsible role of curriculum makers? Second, develop an in-service education program for ourselves. We, in assuming our new leadership rôles, must place first things first. We had better turn over our athletic programs to an assistant principal, turn over the details of commencement night to somebody else. We had better get busy on curriculum development because the secondary schools of America have a tremendous job to do if we are to meet the needs of our boys and girls in these critical times.

LIVING AND LEARNING IN A MODERN HIGH SCHOOL

FRANCIS W. BROWN

Ottawa Hills High School, Ottawa Hills, Ohio

DR. GILCHRIST has just set for us a very high challenge. He has taken us out into the community and a long way from the problems that we deal with in our classrooms. Frankly, I agree with him in all the aspirations and the goals he has set for the modern high school. I am not so optimistic as to the degree and the quickness with which we can accept those challenges and immediately overhaul our school systems to meet the goals which he has outlined. There is an old saying, "No matter how tightly you are held, you can still wiggle." I think that in our school, I must say very frankly, we are held rather tightly within a fairly conventional framework, but we are doing a great deal of wiggling, and the nature of my speech is to outline perhaps some of the ways in which we are wiggling. We do not pretend to have gone very far in completely overthrowing the curriculum but we have made many changes and improvements within a conventional curricular framework.

The theme of this meeting is, "The Role of The Secondary School in American Democracy." Various types of high schools are represented on the program this morning to give a panorama of how schools in varied communities are seeking to meet the needs of the communities and the youth they serve. Our high school was probably chosen to represent a modernized version of a small, academic, college-preparatory public high school located in a wealthy residential suburb. I must say to Dr. Gilchrist, "We still have subjects, we still have grades, we still have all the conventional things which I imagine most of you have." Yes, we are in one of those elite nylon-

stocking suburbs which are cursed and discussed, and schools so situated are often maligned as being artificial, undemocratic, cream-puff institutions serving the intelligentsia.

I am willing to be the goat for the next twenty minutes as I attempt to outline the program of such a high school. Courageously, I expose my innermost thoughts and aspirations as targets for the arrows of criticism from those who believe that the so-called elite suburban high school is an anachronism in a democracy and that such institutions should not exist.

Let me start by saying that during the past twenty-seven years I have served in high schools of various sizes and types in Michigan and Ohio and I find that human nature is very much the same everywhere I have been. Young people everywhere need friends, affection, security, success, a place in the sun. They criticize their elders, encounter frustration and disappointment, need consolation and inspiration and occasionally chastisement. We have most of the same problems which you have in your high schools and, in addition, a whole set of special problems peculiar to a school where young people have been somewhat sheltered and protected. We try to compensate for these shortcomings and also to capitalize on the many strong points of our students.

I have chosen the title, "Living and Learning in a Modern High School," because it expresses our philosophy of education and also gives some hint as to our school program. Before proceeding with an outline of our program, let me say candidly that we make no claim to having invented anything new in education and we are not a

"model" school or an experimental school. We have earnestly sought to select carefully curricular and extra-curricular features which meet the needs of our particular students and community. We see our own problems and shortcomings so clearly that we have no illusions that we have developed an educational Utopia. However, our frequent visitors have waxed quite enthusiastic over our school program and as a result of their commendation I have been invited to appear on this panel.

In order to orient you quickly let me say that the Ottawa Hills schools are located in a middle class residential suburb of Toledo, Ohio. Our village is 100 percent residential and consists of six hundred well-built, single-family dwellings and three small apartment buildings which house a total population of twenty-two hundred persons. Our parents are successful business and professional people. They have chosen Ottawa Hills as a desirable environment in which to rear and educate their children. Our community has little inherited wealth; we are not a community of masters and servants as some extremely wealthy communities are. Our schools have no foreign-born children, Negroes or servants' children—which may be a disadvantage.

However, this condition gives us a very homogeneous student body of bright and capable youth who are all headed for college. This simplifies our curriculum offerings for we need no curriculum in vocational training, commercial work or agriculture, though we do have courses in typing, shop work and so forth, as elective subjects.

The term, "academic work," will be used frequently in my paper despite Dr. Gilchrist's disparaging comments.

The school system includes a grade school building and a high school building at opposite ends of a twenty-

five acre campus. We are organized on a 6-6 basis with approximately 225 pupils in each building. Until 1939, our high school pupils were sent to Toledo. The community wants our school to remain a small high school of high quality with a superior faculty (mostly men), small classes and a broad, well-rounded curricular and extra-curricular program.

In our six year high school we have an enrollment of 240 students and a faculty of twenty, which gave a pupil-teacher ration of 12 to 1 on the last North Central report. Although most classes in special subjects have fewer than twenty pupils, most academic classes are above twenty pupils. We consider thirty pupils a too-large class. In class size we rank perhaps midway between the typical public high school and private schools with which we compete. Another reason for our low pupil-teacher ratio is our desire to have a specialist in each subject field and to provide adequate services in testing, guidance, counseling, and extra-curricular areas.

Before preparing this paper, I had lunch with a half dozen teachers and asked them to enumerate the things which they felt were most typical and most important in our school program. To them I am indebted for most of the specific illustrations in this paper.

I need not remind this audience of the key importance of a faculty of mature and capable teachers. Most of the credit for our fine school goes to the faculty. It is a strong professional group—real persons; active and substantial citizens. Several own their own homes, one is commander of the American Legion, another is director of a bank, others are leaders in YMCA, YWCA, and other community agencies. The faculty participates largely in shaping school policy, curriculum and administration.

I think I am safe in saying at least some of our people are not scared rabbits. They are endeavoring to take their places in the community in a very real way.

Our teachers are very conscious of professional standards and often straighten out fellow teachers who fail to measure up. They strongly believe that the teaching profession should attract the best brains and ability of the nation and that teachers' colleges should improve their recruitment and training programs.

The faculty salary schedule committee worked with the superintendent in developing a new salary schedule which recognizes training, experience, and merit. It has several flexible salary ceilings ranging from \$4000 to \$6000 for classroom teachers. The salary schedule provides for ten months of service from teachers although school is in session only nine and a half months. Teachers are on duty one week in September before school starts and one week in June after commencement and they find that these two weeks are about the most valuable and productive weeks of the year. I think there we do some of the things you indicated, Dr. Gilchrist.

Faculty meetings are of two types: building routine meetings and professional meetings reserved for discussion of curriculum, school policy and larger issues of education. In the latter we have a tradition of bringing in guest educators and consultants several times each year to meet with us and direct our thinking and discussions. The cumulative stimulation of these educational visitors over a period of years is highly beneficial. The faculty like these meetings and named them as one of the important features of our school. Some of our professional meetings are attended by the Board of Education and others by various

committees of the P. T. A. It is our desire to develop common understandings regarding school problems.

We are now engaged in a five-year curriculum study. Every teacher is working on the program. The weekly meetings of the various committees are usually held on school time. Most committees include grade school and high school teachers. Last spring, the P.T.A. appointed a parent curriculum committee which has been quite active and keenly interested. To some extent students participate through the student council and class discussions.

We have engaged the survey division of the state university to work with the faculty and later to make a comprehensive survey of the school system: curriculum, buildings, budget, administration, guidance, community relations, and, in total, how well the educational system serves the community. Some teachers are a little frightened at the magnitude of this survey but on the whole they accept it as a challenge and a source of helpful suggestions for the further improvement of the school.

Our next greatest asset is our student body of bright, capable, uninhibited young Americans. They are mostly ambitious, spirited and full of energy—as the teachers say, “*rarin’* to go every minute.” The chief problem is to harness their full intelligence and excessive energy for productive ends. It is much more difficult to develop fully the potential horsepower of bright pupils than of average pupils. The average I.Q. of our students is about 115; very few are below 100. This is both a challenge and a problem.

In the history of the school, we have had no students drop out of high school before graduation. We graduated our first class in 1941 and from then until now all but four of our three hundred graduates have entered college. They

have attended colleges of every size and type in every section of the country from New England to California, Texas and the Middle West. This makes us meet very diverse standards of college preparation. For us, college entrance preparation becomes a sort of specialized type of vocational training. Our two senior advisers are specialized college counselors for the entire student body.

You are requested to keep in mind this general description of the community, faculty, and student body as the framework within which we work. The community may be too homogeneous or too "high class." We shall leave that for the educational philosophers to decide. No community is perfect; neither are we. I neither praise nor defend the type of school and community which we have. I merely work there and as a conscientious school executive try realistically to analyze school and community needs accurately and provide a school program appropriate to the needs of our community. Let me say in passing that I find Ottawa Hills a very delightful community; but a very challenging, stimulating, and difficult community in which to live and work. Our parents are strongly behind the school and passionately interested in education. Their loyalty and genuine interest in the school is commendable indeed but we find it a bit exhausting to live up to their full expectations.

Our P.T.A. is a dynamic organization run mostly by men. It has an active curriculum committee. It helped us introduce our course in driver education, helped initiate and finance our visual education program and vocational clinic. Currently, the athletic committee of P.T.A. is engaged in a campaign to raise \$30,000 by public contributions to develop further our athletic field and recreational facilities.

Our parents respect and appreciate the school and back up teachers in matters of discipline and lack of application in school work.

Classroom teachers had much to say in the planning of our modern high school building. They believe that the kind of building and environment in which students live and work for six years is important; and so our school is colorful, attractive, and livable. No two rooms are alike; each classroom is a specialized workshop.

Our teachers are aware of community resources and use people, institutions, field trips, churches, industries, and community agencies to enrich the curriculum in a variety of ways.

Our audio-visual program was recently expanded by the purchase of a wire recorder and additional projection equipment. Foreign language records, movies, strip films, and even an ancient stereopticon are much-used visual aids. We feel that schools generally should profit from the experiences of the army and navy schools in visual education methods.

Our teachers believe that they are too dependent upon books, reading, and memorization. They are having considerable success in some subjects in increasing learning by the use of all five senses and this movement is spreading to other subjects with an increase in the materials which students can see, feel, handle, and manipulate.

Teachers insist that their projects be real learning experiences and not just busy work. French and Spanish clubs, for example, have annual banquets which give outlets to varied talents and abilities of students in the fields of art, music, shop, home economics, public speaking, and dramatics. These occasions give valuable experience to participants and develop re-

sourcefulness, teamwork, and social poise.

The Latin origin of the word educate means to lead out, draw out. Class periods should be learning periods; vital, informal, spontaneous, rather than dull, formal, parrot-like situations. Our faculty believes that the amount of recitation and repetition should be reduced to a minimum; that the class period should be varied, interesting and meaningful; that the class time should be used to organize knowledge, to discuss and clarify.

We have a beautiful library and book collection and stress its use by requiring some kind of research in most subjects, including many term papers and long-term assignments which provide practical preparation for college. All teachers give daily homework assignments which are thorough and comprehensive. All subjects have long and difficult final examinations at the end of each semester and good students are not excused from these examinations. We believe in the discipline of hard work and research and find that our students delight in the challenge of a job which is a little over their heads but not too much so. Generally, we underestimate the full capacity and ability of students and give them piddling jobs which do not challenge them.

Let us turn now to the school program. The following points are an attempt to be brief and concise; they do not indicate divisions of the school or any order of importance. Most of them are things which our teachers feel are important.

1. *The curriculum.*—We believe that the curriculum is comprised of the total experiences of students during the entire school day and throughout the six years of high school. Out-of-school experiences, home life and recreational life are, of course, an inseparable

part of the culture and education of students.

2. *Basic nature of program.*—We try to operate a soundly progressive program within a rather conventional framework. We teach children by means of subjects and extra-curriculars. Our whole program is built around this concept. Our curriculum is modern but sequential; carefully planned from first grade through twelfth. We seek correlation at all levels. We try to provide for individual differences but do not do so by I.Q. groupings or by watering down course content.

3. *Twofold goal.*—The basic philosophy of our school includes a twofold goal: a modern academic college preparatory curriculum of high quality and curricular and extracurricular offerings which seek the fullest possible personal development of each student.

Ours is a hybrid curriculum; conservative yet progressive; subject-centered, yet with a strong program of guidance and child study and a strong emphasis on the well-rounded personal development of the individual student. We find that these goals are supplementary and not antagonistic. Perhaps we are trying to carry water on both shoulders and we frequently spill a little on one side or the other.

I fully realize that these two goals are not separate and distinct; they merge at many points. But for simplicity of discussion I will designate Goal 1 as academic development and Goal 2 as personal development. I consider Goal 2 as probably more important than Goal 1; and of course we all know that both kinds of development go on simultaneously most of the time.

4. *Junior high school (grades seven to nine).*—Ours is a typical exploratory curriculum in which the pupil has a brief but systematic exposure to all of the regular and special subjects. We

find this curriculum over-stimulating in grades seven and eight and our faculty is now debating the pros and cons of returning to an eight-four type of organization with exploratory courses confined to the ninth grade.

5. *Senior high school.*—The framework of our course of study in the senior high school is quite conventional. With the exception of our core course (a fusion of English and social studies), all of our subjects are called by conventional names. In grades nine through twelve, our course offerings include a full sequence in each of the five basic academic subjects plus a full array of special and enrichment subjects such as music, art, shop, home economics, journalism, speech, dramatics, commerce, and so forth. In order to insure some contact with these special subjects we require that each pupil present for graduation a minimum of two units of credit in the special and enrichment subjects.

6. *Requirements for graduation.*—Our formal requirements for graduation consist of eighteen units of credit distributed as follows:

- 4 units of English
- 3 units of social studies
- 2 units of mathematics
- 2 units of science
- 2 units of foreign language
- 4 years (1 unit) of health and physical education
- 2 units of special and enrichment subjects
- 2 or more units of other electives.

Half of our students graduate with twenty or more units of credit. One of our chief problems is to hold down the ambitious student who wants to take everything in the curriculum.

7. *Core curriculum.*—In both junior and senior high school we have a simple type of core curriculum which, as stated above, consists of a fusion of

English and social studies into a two-period core course taught by a single teacher. On college transcripts our core course becomes a unit of English and a unit of history or social studies for each year of high school. Actually our core course is much more than this. It is a central integrating course which correlates English, history, music, art, communications, government and modern problems. It specializes in giving basic skills and literacy, skill and power in oral and written communication, civic education, sensitivity to human values, acquaintance with social and economic problems and a broad view of the United States as a world power and her strategic position in the atomic age just ahead of us.

8. *Testing program.*—Our testing program is rather complete; perhaps a bit top-heavy. It stresses constant self-evaluation on the part of the pupil and attempts to give concrete evidence regarding both of our major goals, namely, academic development and personal development. We try to acquaint students with all types of tests so they are "test wise" and overcome nervousness and learn to "take tests in stride." "Tests are a game; sometimes you win and sometimes you don't do so well; but always you do your best."

During their school career students typically take the following tests: ability tests in grades one, two, five, eight, nine, ten, eleven, twelve; tests of basic skills each year from grade four through twelve (reading, arithmetic, language; sometimes study habits, spelling and handwriting); general achievement tests each spring in grades two through eight (California, Metropolitan or Stanford); SRA—Iowa General Educational Development tests in the fall of each year of high school, and subject matter tests in mid-year or spring (Cooperative tests, Sones

Harry tests; we have not tried the USAFI subject area tests; and personality and vocational aptitude tests, which are given to high school students on Saturdays on a voluntary basis at Toledo University as a result of a co-operative arrangement with the department of psychology. Students pay a fee for this special testing service. High school counselors receive the results of these tests and use them in college and vocational counseling.

9. *Use of test results.*—Tests are of value only to the extent that the results are used for the improvement of instruction and for promoting academic and personal development of the student through guiding him in his curricular, extra-curricular, and personal activities. All test results are collected in the cumulative record folder of the pupil which all teachers refer to at regular intervals and before conferences with students or parents. Classroom teachers and department heads use achievement test data as a basis for analyzing the curriculum and instructional efficiency. A composite of test data combined with anecdotal data is used in pupil counseling and child study work. Wherever appropriate, test results are shown to and discussed with individual pupils and with parents either by their request or ours. We encourage realistic self-analysis on the part of students at all grade levels, stressing growth and improvement in terms of the student's own previous record rather than competition with other members of the class. However, students do participate on a voluntary basis in the various competitive state examinations. We encourage students to take these "in stride" also. We feel that this whole testing program is excellent preparation for college since we are a college preparatory school.

10. *Guidance program.*—Our guid-

ance program is tied in closely with our testing program. We have a decentralized guidance setup in which all teachers participate. Home room teachers and subject teachers are first line guidance people. Yet, we have some specialization. Our child study director, deans principals, and college counselors are second-line, specialized counselors.

In our guidance work we have a minimum of machinery and a maximum of personal contact with students. Our small classes and low pupil-teacher ratio make it possible for teachers to know pupils very well personally. All test data are modified in terms of this personal knowledge of the student. The guidance program includes academic guidance, vocational guidance (including college counseling), personal guidance on a thousand personal problems, and limited clinical services through our child study director. Our group guidance activities and home room discussions are strongly reinforced by frequent personal conferences with individual students and their parents. This is very time consuming, but pays large dividends.

We find that many students cannot learn because of mental blocks and personal maladjustment. If these can be cleared up the student's academic and personal adjustment improve immediately. Our experience leads me to urge that schools everywhere should include a child-study director as an important part of their guidance program.

As regards academic guidance, we stress self-evaluation and the necessity for a planned high school course. We feel that even the elective courses should be chosen as a result of a general plan. In the spring of the eighth grade after appropriate discussions with pupils and with their parents in an evening meeting, all students lay out their courses for the full four years

of high school. This four-year program is reviewed each spring and revised if necessary in the light of the success of the year's work and any change in college or vocational plans.

Our guidance program might be characterized as having both horizontal and vertical dimensions. Academic guidance tends to be vertical in its operation. Both the curriculum and the individual student are studied from grade to grade to see that progress is well rounded and that gaps and repetition are reduced to a minimum. Subject teachers and department heads do a good job of measuring subject-matter achievement and seeing that it contributes toward the civic and vocational goals of the student. This vertical guidance gives sequence and plan to the curriculum of each pupil and seeks a continuous personal development toward an ultimate goal.

The horizontal phase of our guidance program is the chief concern of the homeroom teachers, deans, and principal. The freshman homeroom teachers constantly survey and evaluate the total program of freshmen students to see if they are "having a good year." They attempt to add up the impact of the curricular, extra-curricular, and personal activities of each student to see if he has broadly balanced interests and activities. Students with special personal needs are urged to participate in public speaking, dramatics, typing, music, dances, certain school clubs, and so forth, in order to round out their development. Isolates and maladjusted pupils are worked on intensively by the homeroom teacher and child-study director. Unless anti-social, aggressive and antagonistic pupils are straightened out, they will make little progress academically or personally. Few schools realize the total impact of the curricular, extra-curricular, and out-of-school pro-

grams on their pupils. The horizontal guidance program tries to work on this problem and make adjustments so that each pupil is having a good year and developing normally in terms of his personal abilities, interests, and life plans.

In the broadest sense of the word all education is guidance and guidance of some sort goes on continuously whenever teachers and pupils are working together in any phase of the curricular or extra-curricular program of the school. The influence of the teacher in every contact with students determines his worth to the school system and his ability to promote the growth and development of students. Therefore, teachers should be employed in terms of their ability to stimulate pupils toward wholesome development.

11. *Vocations conference.*—Our annual vocations conference is much like similar conferences held in your schools. The faculty commented on the type of homeroom discussions which precede and follow the vocations conference. We usually have an evening vocations meeting with parents and a kick-off vocations assembly with students followed by about thirty sectional meetings where leading business and professional people discuss the requirements of various occupations. Students choose the meetings they prefer and usually elect to attend four in each year of high school. The vocations conference is closely tied in with our testing and guidance programs.

In subsequent homeroom meetings students discuss aptitude testing, their personal interests and abilities, and determine whether they are strongest in scientific, literary social service, or personnel fields. As a result of these discussions, students often rearrange their courses for the following year and change their minds about choice of college and occupation. Teachers

try not to influence students in their thinking but urge them to withhold decisions until they have gotten all the facts and have thought the matter through. A specific choice of occupation at too young an age is probably not a good thing, but a great deal of broad thinking about occupations and analyzing one's own interests, abilities, and aptitudes is a very wholesome experience.

12. *Health and physical education.*—

Our program of athletics and intramural sports is broad and diversified and stresses sports which can be pursued in later life such as tennis, golf, swimming, archery, bowling, and so forth. Over 90 percent of our boys and a high percentage of our girls participate in some intramural sport in addition to regular gym classes. Health instruction is given in grades seven, eight and ten.

Our varsity athletic program does not dominate the school. Our teams have their ups and downs but on the whole do very well for a Class B school. Our case is stocked with over twenty-five trophies won during the brief nine-year life of the school. In basketball we have been county champions eight out of nine years. The intramural program serves well the non-varsity students of the school. Sports should train in good sportsmanship, but all too often winning teams and winning student bodies are poor sports, thus defeating one of the main goals of the sports program. Our whole school is proud of our sportsmanship code formulated by students during the first year of the high school. Athletic officials are high in their praise of the genuine sportsmanship of our spectators as well as our athletes.

13. *Extra-curriculars.*—Our extra-curricular program is not elaborate or unique but we operate it exclusively for the purpose of giving experience

and development to students. We do not have an unusual number of clubs as such, but we do have a great variety of activities, experiences, and responsibilities which students are guided into as a means of furthering personal adjustment and development. The dramatics coach, the athletics coach, or a club sponsor may, at the suggestion of the homeroom teacher, invite a given pupil to participate in a special activity which he needs. The student with a flair for language or art is interested in the school publications. The shy student is put on a committee or appointed as secretary of a club or as salesman in the student book store.

In other words, our school like most schools uses student assistants in a large variety of activities including student managers for athletics and intramurals, student treasurers, bookstore clerks, library workers, laboratory assistants, student shop foremen, and student assistants to the attendance director. Students also occupy business and editorial positions on the school paper and annual. (Last year our school yearbook budget was \$2,000 raised entirely by student effort in a school of 240 pupils.)

Students also serve as chairmen of assemblies and preside at many meetings, participate extensively in dramatics, musical, and other programs. The only unusual feature is that the faculty has decided that these jobs should be assigned on the basis of need rather than on the basis of merit alone. Each job is used as a sort of therapeutic pill administered to the proper student at the proper time to give him the experience and development which he needs at that time. Our jobs are so many and our students so few that every student can have a variety of jobs and experiences during his six years of high school.

We believe that every teacher should

be a talent scout, encouraging pupils with special interests or abilities to develop them fully through their choice of subjects and extra-curricular activities.

Obese and unattractive youth should learn the miracle of proper diet and grooming and that social skills can be developed. All of this type of guidance necessitates teachers who are sensitive to human values and to personal needs of students and who have time enough to do something about helping students meet their personal needs. The starting point is a strong emphasis on good human relations in all phases of the school program—a respect for students as individuals, each with his own personality, each capable of making his own contribution to the class and to the school. Teachers avoid over-regimentation and a strict authoritarian approach but treat pupils as ladies and gentlemen who are honest, truthful, intelligent, and dependable and are seldom disappointed. We believe in strict discipline and personal integrity. If teachers set high standards of work and conduct for pupils they will usually measure up. In fact they often amaze us in their intelligence and insight, and ability to “come through.”

Administratively the achievement of these goals affects teacher employment practices, the assignment of duties, scheduling, teacher load, class size, and the total organization and operation of the school.

14. *Citizenship training.*—To us the good citizen is an intelligent producer and consumer, a good husband, wife, and neighbor, an active and responsible member of the community, and an informed and intelligent voter. He is active in community affairs but never the tool of politicians. He supports every move designed to make the community a better place in which to live.

The responsibilities of world citizen-

ship loom large today. The uncertain future requires that high schools everywhere strengthen their programs of civic education and citizenship training. Textbook work is not enough. The whole school should be a laboratory for citizenship. Also, students should discuss realistically government, economics, sociology, and the vital problems of the community, nation, and world. Knowledge, insight, and practical action are needed. We have made a double approach toward citizenship training by expanding our course content and by expanding citizenship experiences. Our core curriculum provides an unusual quantity of geography, economics, and sociology, and of the study of local community, state, nation and the world and culminates in a modern problems course in the senior year which portrays American domestic problems and our sphere and responsibility as a world power.

15. *Student council.*—We believe that citizenship experiences must be extensive and varied. Many phases of student life in the school give students experience in citizenship. Our student council is an important citizenship training organization. It has been slowly developing into a really democratic organization. It used to be something of a joke but it is now accepted by faculty and students as having prestige and power. Our council is now moving towards increased self government. Last year, Dr. McKown, author and authority on student council work, spent two days in our school and spoke to students, teachers, and to a parent audience in the evening. Under his leadership a regional student council organization was formed.

Our student elections are lively campaigns with speeches, balloting, and much fol-de-rol. Students participate in radio broadcasts dealing with issues of the day, hold memberships in the

local United Nations Organization and perform many important services in the daily operation of the school. Good citizenship requires personal honesty and responsibility—each must look after himself. Hence, we have no hall police or guards, no padlocks on student lockers, and a minimum of writing on toilet room walls and defacement of the building. Students really respect the school as their home and their community. Our driver education class, attendance system, merit and demerit system are all designed to develop personal responsibility for sportsmanlike

conduct in all situations. Students learn by doing; citizenship is acquired from experience rather than from textbooks.

In conclusion, let me say that we believe that the modern high school must increasingly become a place where young people live and learn. The total school environment must be one conducive to meeting the needs of youth and promoting the personal and academic development of well-rounded citizens equipped to participate effectively in a democratic society.

DEVELOPING A COMMUNITY SCHOOL IN FLOODWOOD

L. E. HARRIS

The Public Schools, Floodwood, Minnesota

FLOODWOOD is a small village, located in the cut-over area of Northern Minnesota, where big pine stumps and second growth timber are reminders of the days when the area produced vast quantities of pine lumber.

We are a small high school. The total enrollment of the elementary and high school is about 450. We have a faculty of twenty-two, including two assistant vocational agriculture instructors. The people in the community are chiefly of Finnish, Polish, and mixed American stock and came to this country to work in the mines and in the forests as far back as a half a century ago.

The school district is comprised of three townships including the village. We serve a rural area of about ten townships as far as our high school is concerned. We operate on a 6-6 basis. When the first high school class of five was graduated in 1926, most of the settlers were making their living by working in the woods as lumberjacks, teamsters, cooks, crew bosses, and private contractors. The small clearings in the forests were beginning to be developed into very small farms. These were merely a help to the earnings which their owners made in the woods. Most of the business was done through the commissary store of the timber company which dealt out contracts for cutting timber products to those settlers who were "right." That is, those who traded at the company store.

The high school curriculum in 1925 was almost entirely college preparatory. There had been one unsuccessful attempt to start a consumer cooperative store in the community and in 1924 a second attempt was beginning to show signs of success. In 1931, there

was enough dairying in the area so the farmers organized a cooperative creamery to market their dairy products. The settlers were slowly beginning to convert from lumberjacks into small-time, part-time farmers. During the depression, the demand for timber products dropped materially and they began to expand more in their agricultural developments.

There was no other industrial development in the community; no factory, no other work other than what is conventional in a small country village. In 1934, the vocational agriculture department was added to the high school. This sketchy background is given so you may better understand the educational needs of the community and have a little background for what I am going to say about our community school.

In Floodwood, we think the chief objective of a school is to develop effective citizens in a democracy. The educational program of the school should be built, and we have tried to build it, around the community needs. Community resources and community problems should form the core of the learning activities of the school and we have tried to make that true. And as the students mature and develop, the concept of community should expand to embrace the world community. Instead of trying to construct a framework, structure, or skeleton of the curriculum, we like to think that the curriculum is the result of a pattern or approach to the meeting of these community needs. Instead of merely a child-centered school, we like to think of our school as a community-centered school.

What is this pattern of approach

which can take the place of a skeleton of a curriculum? We think this is it: to begin with, a complete community survey of all the social, economic conditions in the community, the life of the people, their backgrounds, their desires and needs. This should be continuous, from year to year. You can't make a survey and then say, that is it, because the community changes. But these needs should be summarized and analyzed through parent-pupil-teacher study. Then, they become a part of a learning pattern.

The second part of the approach is child study; home visits, conferences. I shall not go into detail since you know about those things. Results should reveal individual needs and we think, then, we will know where the child is so we can take him from where he is, to where a competent, well-trained teacher thinks he ought to be.

Third, we like to develop democratic procedures in all of our school relations between the parents, the school board, the superintendent, principals, teachers, and pupils. The teacher should not be a dictator in the classroom and neither should the superintendent dictate to the faculty.

Next, we want to establish the habit of group action in solving community and school problems. We also want to establish good working habits, the ability to do a job efficiently and well and see it through to completion. In doing this, we use parent-pupil-teacher planning as a major method of approach in developing these experience learning units.

And then last, we have tried to use modern evaluation procedures. We have no formal reports in the elementary school. I shall not go into detail at this point because I think that you people all know the things that are being done in the field of grading procedures.

This general approach provides all the curricular framework necessary, we think in a school. It should never become fixed or inflexible. Subject organization must not give way to some other form equally inflexible. We have tried to achieve results through some of these practices by some of the following methods: We have a student council, as most of you do, and we try to have the council function democratically with some very fixed responsibilities. The teachers do actually share in the making of school policies. Our teachers' meetings are always coffee sessions. We seem to have difficulty getting more than two people together without a coffee-pot being handy.

Before school starts in the fall, we have a one-week conference at which time we try to lay out our plans for the year. We do have quite a number of teachers working on the ten-month basis, some on eleven months, and some of them on twelve months, particularly the vocational people.

We are part of a six-school project in Minnesota, working with Dr. Nelson Bossing, of the University of Minnesota, and with the State Department of Education, and we have occasional visits from Dr. Bossing or his assistant. Once a month our teachers get up at about a quarter to four on a Saturday morning, climb into a school bus and drive 170 miles to Minneapolis to the University of Minnesota, where we sit through a morning conference with Dr. Bossing and sometimes Dr. Gilchrist and other people from the University and Minneapolis. No one takes attendance on the ride. No one says anybody has to go, but we generally find the bus is filled. I think that is an indication of what teachers want to do themselves.

One day a week we dismiss early, at three o'clock, so we can get some of

the things talked over and not have to stay in the school until six or later. That is being done at the teachers' request.

Another part of our practice involves the relationship of the Teachers' Union and the school board. The Union has delegations at all school board meetings. They feel free to speak up at any time. Meetings are rather informal. Teachers oftentimes make reports on various projects and units to the school board. They are there to answer any questions brought up by the board, such as rumors which may have circulated in the community. Board members may want to know more about what they have heard. There is always someone present from the faculty who can answer most questions. Open and friendly negotiations are carried on in settling questions concerning wages, working conditions, and general school policies. We just had a three- or four-hour session Monday night on that question. There again, coffee seems to be a part of the program because after every school board meeting, some two or three members of the faculty volunteer to be on the coffee committee and they have a little lunch. Maybe that is the way to keep the school board sweetened up.

Another part of our procedure involves community and school committees. At the present time, following the war, we have had to start over again with some of the things that were once going along in pretty good shape. We now have an active community agricultural council, community health, physical education and recreation committee, and a homemakers' council. We previously had a conservation council which involved forestry and wild life. The latter has been inactive since the war.

Then, the last thing, is the relationship of the faculty with the commu-

nity, and there the teachers try to be as active as their interests and desires carry them in the civic organization of the community.

What have we tried to do in the school specifically to meet some of these needs? We have eliminated subject organization in so far as the teachers are able to shift to the experience-activity technique. That is not 100 percent and we are moving slowly in that respect, because we want teachers to feel secure in what they are doing. The teachers are not going to use a technique unless they feel like it, and no one is going to make them. In the elementary grades, the experience units are increasing in scope and intensity in keeping with the individual group ability. In the high school, we carry on a general education program throughout. We choose to call it "general education" instead of core curriculum. We do not think that core curriculum is a good description. General education is a better term; it has better connotation as far as public relations is concerned. In the junior high school we have four hours of "G.E.," which is the nickname, and we also have physical education, agriculture for the boys, and homemaking for the girls. These are the only vocational studies we can offer to our students in the junior high school.

In the senior high school, there are three hours devoted to the G.E. groups plus special interests and that includes college preparatory subjects. Those subjects are taught purely as subject matter material. We also have vocational groups in home economics, agriculture, commercial, and some mechanical. Student organizations and activities are curricular, not extra-curricular. They are a part of the regular school day. We do not call them extra-curricular. We think any organization or activity worthy of the

students' efforts and time should be a part of their learning experience during the school day. Therefore, we are definitely not putting them in as extra-curricular.

We carry on a constant emphasis on democratic procedure, the use of the parent-teacher planning. We find it necessary and needful to have a great deal of teacher pre-planning in all the work that is done in the school. The pre-planning is extended often to the community. For instance, the health program involves people in the community and a survey of the community. When we have a meeting of the community health, recreation, and physical education committee, these people discuss the things which they think the school might do to help solve some community problem.

About 15 percent of our graduates go to college and, if I can brag a little, so far no graduate has failed in college in the twenty-one years that the high school has been in existence.

The high school evaluation procedures vary this year with each progress report. They are still largely written and of the informal type. We have tried check lists and techniques of evaluating and reporting growth.

In the elementary school, we sent a questionnaire to the parents asking what kind of evaluation or progress report they would like to have. Eighty-five percent of them voted on a mail ballot in favor of teacher-parent conferences. There was a little bit of back-ground to that, of course, as you might know. Maybe I should say as an aside here that it happens that the superintendent of schools at Floodwood and his wife, and the wife of a former faculty member, own and operate the newspaper in that town. Consequently, it is a rare day indeed when an editorial comes out criticizing the school.

I will list some of the community

needs which we think we have discovered as a result of our survey. Here are the expansion and improvement of dairying, the development of small industries, reforestation and conservation, homemaking. We know 80 percent of the girls are going to be homemakers at some time. We know we need additional vocational guidance. We found from a graduate survey that our school did not give enough information about how to pick a job. We also need more vocational training.

Before I close, I will list some of the projects which have been carried on as part of the general procedure. A survey was made of wells in the village which resulted in a project to put in a water and sewer system. We started an artificial cattle insemination program in the community. We also have a program for a Christmas tree project, a nursery and school forest. We have a community recreation area and park, nature study and wild life area, and a school lunch program. We also have a gardening project wherein the students are given credit on noon lunches for what they raise. We have conducted a health survey of dental and nutritional needs and a soil survey. Now we are advising the application of fertilizers and we also are carrying on plans to keep our farm survey program up to date. A survey was made of forest and peat resources and a census of the village is now completed.

Some of the attitudes of the community are important. There are some objections to the general education program, particularly from those (about 20 percent) who think their children are going on to college. They are afraid the students are not going to get some things which they are going to need for college entrance. We tried to put materials in their hands to help them know, as we do, that they need not worry about these students.

We have a study club which was organized because of the desire of three or four women who asked if I wouldn't give them something to read. I had referred to some books I had read and they wanted to read them too.

One of the influences of the cooperatives in our community is to give the people a willingness to accept change. That is important, because one of the reasons we are not able to do some of the things in our communities is because people do resist change.

Another problem is to get teachers who are professionally competent and who understand the implications of the modern theories of the psychology of learning. We have to re-orient teach-

ers who have been indoctrinated with subject organization in teacher training institutions. Sometimes they do not believe us because somebody told them it worked the other way.

Then, we have the general problem of providing necessary finances to hold good people and do justice to the teachers who want to stay in the community and work in this kind of a program.

We do not have all the answers, but as long as we have our health and vigor and can keep our minds open, we can go on and try to find the answers to today's problems today and hope that tomorrow we can find the answers to tomorrow's problems.

SHAPING THE CURRICULUM OF YOUTH

PAUL R. PIERCE

Wells High School, Chicago, Illinois

THE curriculum of Wells High School has now been in progress thirteen years. The school was opened in February, 1935, in the depression, with a new building and new high school district, but with a traditional curriculum. Reorganization of the curriculum began in September, 1935, with pupils entering the first semester of the ninth year, and moved upward with this wave of pupils. By June, 1939, the new curriculum had replaced the traditional program in all grades from nine to twelve. Currently the school has two thousand two hundred pupils.

The provisions under which Wells operates are the same as for all other high schools in our city system—the same for equipment, teaching staff, organization, books, and supplies. No special services have been asked or given. The principle has been followed that improvement of the school program does not depend fundamentally on any special pattern or set of conditions—that pioneering done under normal conditions may be of more value to the profession than that done with special equipment and services.

Our school is situated in a foreign industrial district of Chicago, but the principles underlying our program are basic to education for *all* pupils—rich or poor, scholarly or non-academic, rural or urban, of foreign or American origins, in large schools or small, in elementary or secondary education. The practices for putting the principles into effect have been, of course, adapted to the backgrounds of Wells pupils.

BASIC PRINCIPLES OR PHILOSOPHY OF THE PROGRAM

An educational program cannot have adequate direction, coordination, or

purpose unless it is based on sound principles of education. Since the opening semester, which was utilized for studying the curriculum and arriving at a basic philosophy, Wells teachers and pupils have consistently based their work on the following principles:

1. The curriculum consists of successful democratic living.
2. Pupils learn the curriculum by carrying out the activities of successful living under teacher guidance. Bobbitt expresses the matter very effectively in these words: "The thing to be learned is the good life, and the pupils learn it by living it."
3. Democratic living is divided, for purposes of learning, into major divisions or functions. The seven cardinal principles were first utilized by Wells teachers for this purpose. The major divisions used at present are thus stated:

Advancing Physical Welfare
Building Democratic Relationships
Developing Economic Competence
Enjoying Wholesome Leisure
Meeting Work Responsibilities
Satisfying Religious and Esthetic Needs
Thinking, and Communicating Ideas.

4. These major divisions of living are in turn analyzed and subdivided into significant problems, units, and activities for classroom learning.
5. The planning and carrying-out of units of learning are done by teachers working co-operatively, first with pupils, and then with parents and community members.
6. The performance of the activities of successful living in school, home, and community is both the *method* and the *test* of learning. The subject fields, with their information and skills, are used as means for performing the activities intelligently and effectively.
7. The general-education, or core, division of the curriculum consists of the activities necessary for *all* as worthy members of our democratic order. The subject fields contributing to this curriculum are social studies, English, science, physical education, art, and music. These are supplemented by homeroom, guidance, and auditorium activities.
8. Special education, or the elective division of the curriculum, deals with smaller, personal—

notably vocational—spheres of living. Such subjects as algebra, shorthand, Latin, and chemistry make up this part of the curriculum.

9. Reorganization deals chiefly with general education. The core curriculum, the main vehicle of general education, is the concern of all pupils and teachers.

OVERALL CURRICULUM PLANNING

All Wells teachers, regardless of subject, are organized into six cross-departmental committees to plan grade-level, or other phases of the school program. These teacher groups enlist pupils, parents, and lay citizens to work with them. The chairmen of the grade-level committees form a central, or total-school, committee for coordinating the work. The principal acts as consultant to the grade-level groups and as chairman of the coordinating committee. Curriculum specialists from universities are drawn upon for consultative services.

The curriculum groups meet both after school and within the school day. Their findings are mimeographed in the form of "unit leads." On these leads, teachers and pupils in core-curriculum classrooms cooperatively build their units of learning.

THE FRAMEWORK OF THE CORE CURRICULUM

The core curriculum of Wells High School, in addition to homeroom, personnel, and auditorium work, has four years of physical education, four years of social studies, three and one-half years of English, three years of science, and one year each of art and music. It has a broad base in the ninth and tenth year, with only one elective, but it tapers off in the eleventh and twelfth years to permit the specialized electives needed for entrance to college or industry.

The learning fields of this core curriculum still have familiar labels, but

resemblance to conventional high school subjects virtually ends with the names. They have been reorganized in accordance with three main principles:

1. The *broadening* principle has been applied to replace academic content with activities of high-grade daily living.
2. The *integrating* principle has been used to form broad learning fields by drawing important elements from related subjects. The ninth-year social studies of our core curriculum is a socio-business course formed by fusing materials of community civics with those of consumer business training. Likewise, elements of world history are combined with commercial geography to continue the socio-business sequence in the tenth year. The pupil may use these courses for either a social-studies or commercial sequence. Another example is the use of materials from home economics, astronomy, geology, and chemistry to form the core science course of the eleventh year.
3. The *learn-by-living* principle insures that the activities are lived, rather than merely studied academically. All units of learning involve performance of important activities of living in school, home, and community, under the guidance of teachers, parents, and key citizens.

Wells core curriculum occupies approximately 55 percent of the pupil's class time. With guided choice of electives, it provides the sequence necessary for graduation, the subjects for college entrance, and a vocational sequence of stenography, accounting, home economics, or shop.

CLASSROOM GUIDANCE OF DEMOCRATIC LIVING

In the core-curriculum classrooms, the pupils are taken into partnership with teachers respecting the nature and purposes, as well as the content, of the curriculum. While no set pattern is followed, a way often used is for teacher and class to examine, before beginning a new unit of learning, the main purposes of education—why so much effort and money are expended in high school work. It is remarkable how effectively pupils, with understanding

guidance, think this out. At first a pupil will say, "to get a 'better' job." Another will offer, "to get along better with others," and still others, "to have better health," "to spend time better," and, "to talk and write better." When led to attempt a generalization on these specifics, they eventually arrive at such a conclusion as, "We go to school to live better."

The teacher may next lead the pupils to consider the main purposes of the learning field in which the class is working. If English, with what phase of the better life does it deal? Through patient guidance of discussion, they arrive at "communication" as a main purpose. By recalling units carried out in English during past semesters and discussing what important things ought still to be done, the pupils, with the teacher's easy guidance, approach the unit that ought next to be done by the class. Sometimes such an overview includes the work of the entire term.

Once the class arrives at the particular unit to be done, it considers the *nature* of the enterprise, the reasons *why* it should be done, and the *way* it should be done—the "what," the "why," and the "how." This process may take days or even weeks, but it is absolutely necessary to intelligent learning. In the work stage of the unit small groups and individuals engage in various activities which utilize the varied ways of learning, such as observing, dramatizing, constructing, discussing, viewing, in addition to reading and writing. They find it necessary to stop from time to time to take stock of the progress of the unit as a whole and the contribution of their own activities to that progress. The pupils culminate the unit, under teacher guidance, by synthesizing the findings of the various groups, and by carrying out these learnings in their daily living in school, home, and community.

The unit enterprises thus cooperatively carried out consist of direct aspects of the pupils' daily living. Examples in science are "Making Homelife Healthful," "Growing a Garden," "Becoming Young Men and Women," and "Basing our Buying on Science"; in social studies, "Sharing in Wells Government," "Saving and Using Money Effectively," "Living and Working Together," "Planning Our Careers"; in English, "Using the Radio Effectively," "Detecting the Channels of Propaganda," "Exploring the World Through Books," and "Living Courteously in the School"; in art, "Enriching the Home Through Art"; and in music, "Being an Intelligent Consumer of Music."

In addition to these large cooperative units of living and learning, the core class also carries on a series of "current" or "on-going" life activities. The 9A semester in social studies, for example, has as cooperative enterprises, "Sharing in Wells Government," "Living and Working Together," and "Increasing Our Employability," and as current living activities. "Participating in a School Service Organization," "Salvaging Waste Paper," "Enlisting in a Community Organization," "Making a Field Trip," "Buying Savings Stamps and Bonds," "Being a Member of the Junior Red Cross," "Taking Part in Community Clean-Up Drive," and "Participating Actively in Homeroom Civic Club." The cooperative unit becomes a current living activity at higher grade-levels and with increasingly mature treatment. Just as in actual living, many enterprises are carried on concurrently in class.

To insure that the activities of living that are intensively studied and planned in the classroom are put into practice in everyday living, a current-activity sheet with spaces for an-

ecdotal records, is used. On this, four scheduled activities, and one or more free-choice activities, are accounted for by the pupil each month. There are spaces on the sheet for the verifying signatures and comments of parents, teacher sponsors, and workers in community agencies, in their role as the teacher's guidance assistants. The anecdotal record of completed activities is evaluated by the teacher, credited toward the pupil's classwork and grade, and filed in the pupil's class folder.

RELATING THE WORK TO COMMUNITY LIVING

The significant activities of democratic living comprise the curriculum. Teaching consists of guiding the pupils successfully in these activities, the teacher utilizing the cooperative aid of pupils, parents, and key citizens in the process. As in all other areas of living, this principle is paramount in the community aspects of our program.

The high school world itself is the most logical, as well as the most practical, community area for developing pupil activities of successful living and teacher techniques for guiding these activities. All Wells pupils spend a period each day in the service of their school. They likewise carry on social affairs, eat in the school cafeteria, visit with friends in corridors, put on shows, publish newspapers, take care of the campus, and the like. The core teacher develops relations with teacher sponsors, lunchroom manager, and chief engineer for guiding and evaluating the school living and learning.

Parents are enlisted to take part in curriculum work, class and assembly sessions, and in the Parent-Teacher-Student Association. Each teacher makes it her goal to have at least one conference with a parent of the pupil each semester regarding the pupil's

progress in school and home living. Special efforts are made to acquaint the parents with the purposes and procedures of the learning fields. The school newspaper publishes a supplement in which the work of each core field is described and a reprint of this supplement is furnished each parent. A section of the yearbook each year is devoted to an important phase of the curriculum and reprints of this section are distributed to parents and community leaders. Printed leaflets describing educational facilities and services in the neighborhood are also furnished the parents.

To capitalize the services of key citizens, representatives of important community agencies, such as churches, social centers, department stores, newspapers, playgrounds, and labor unions are enlisted to address assemblies, work on curriculum committees, assist teachers in getting pupils to join community youth organizations, and to obtain jobs for pupils in industry. In the twelfth-year social studies, physicians, pastors, labor leaders, bankers, store managers and leaders in other vocational fields conduct sessions of the Wells School of Community Leadership, which is organized by the seniors to train themselves for community service after their formal schooling is over.

In order to provide experience for *all* pupils in important aspects of community living, special projects are distributed according to core field and grade level. Thus, in social studies, students enlist in community organizations in Grade 9A, make a survey of local governmental machinery in Grade 10B, and make a study of community labor organizations and activities in Grade 12B. In science, a survey of community housing is made in Grade 9A; a garden-growing campaign is conducted in Grade 10B; the large farm

with which Wells has working relations is visited in Grade 10A; all girls take the Red Cross Home Nursing Certificate and boys take Red Cross First Aid Certificate in Grade 11A. In English, each class holds a party in the social room in Grade 9A; each class conducts an assembly in Grade 10B; and a survey of communication agencies is made in Grade 11B.

Each unit of the core curriculum deals with the improvement of the community, since it deals with high-grade living in school, home, and community, and since parents and other community members assist in guiding pupils effectively to carry out the activities of the unit. Thus, the unit in English, "Reading a Newspaper Intelligently," involves the pupils' having the school newspaper read in the home, the parents' conferences with the teacher regarding home reading of newspapers, the classes' making a survey of ownership and vested interests of newspapers, the pupils' interviews with local publishers, and the use of newspapers as reading materials in the school.

The curriculum is extended into the summer vacation by having each pupil make out, in a personnel period with his homeroom teacher, a schedule of vacation activities. This schedule, entitled "My Vacation Plan," is used for stock-taking in September, again with the homeroom teacher. The activities carried out, whether work experiences, camping or hostel trips, are recorded and credited to the pupil as an integral part of his curriculum.

GUIDING DEMOCRATIC ACTION OF PUPILS

To provide abundant opportunity for democratic action of pupils, and to eliminate any tendencies toward regimentation, are continuous aims of the Wells curriculum.

The first and most fundamental provision for democratic pupil participation is made, as has already been indicated, in the core classroom. Here all pupils, democratically grouped, work side by side, sharing with one another and the teacher in the planning and carrying out of their cooperative enterprise.

In the homeroom, the pupils conduct the sessions in parliamentary procedure as the local unit of the Student Civic Association. They have committees on Association membership, on legislation, on social affairs, on attendance, and the like. They handle all tickets, drives, contributions, and referendums on matters of pupil participation in school government.

The Civic Council, made up of delegates from each homeroom, handles and accounts for all local moneys, conducts civic assemblies, publishes a daily bulletin read in all homeroom civic sessions, and deals with the principal's office in matters of pupils' sharing in school administration.

To give pupils a voice in large curriculum planning and action, each core-curriculum field has a council consisting of a delegate from each class. Thus there is an English Council, a Science Council, an Art Council and the like. The Civic Council is the Council of Social Studies. The projects planned by each council, if approved by the administrative office, are put into effect in the department concerned, and often become regular units of the core curriculum.

The first project initiated and carried out by a council was the construction of Wells Campus. The students of the core science classes, working through their council, financed and did the work in replacing the cinders of the yard with lawn and shrubbery. The care of the campus is now a regular unit of biological science.

The English Council has conducted the writing of letters by each student on Mother's Day and the sending of the school Christmas card to each home. The Art Council has held street exhibits in which community landmarks and activities have been interpreted through paintings and models, and has constructed and equipped model rooms to improve decoration of the home. The Music Council has staged religious pageants attended by parochial and public school children of all faiths.

IMPLICATIONS FOR SECONDARY SCHOOLS

When the curriculum actually is made successful democratic living, instead of formalized information about living, many procedures of high school administration uniformly practiced throughout the country must be examined to discover whether they aid or handicap the reconstruction of the curriculum. The staff of Wells High School, after thirteen years of pioneering, feels that its experience warrants the following recommendations for facilitating curriculum improvement in American high schools:

1. The individual school should be made the basic unit for curriculum construction, since it has the pupils, the homes, the community and the teachers who guide the learning processes at its disposal. Top-level curriculum effort should be devoted to supplementing and servicing the work of individual schools.
2. The restricting influences of specialized subject matter should be replaced, in general-education areas of the curriculum, by application of the integrative principle. New materials are better placed in broad learning fields than in new courses which must be elective and consequently not available to *all* pupils.
3. The Carnegie unit is a restricting factor in shaping a curriculum of successful democratic living. If retained at all, its use should be confined to special, rather than general education.
4. Certifying of teachers should be by broad general fields, rather than by specialized narrow subject fields. Thus, teachers should be certificated as science teachers, rather than as chemistry teachers, biology teachers, and physics teachers or as commercial teachers rather than stenography teachers, accounting teachers, and junior business training teachers. Certification by narrow subject fields is the greatest handicap we have encountered in guidance, as it often prevents the teacher from having her homeroom pupils in one of her classes, and from remaining with pupil groups over a period of years. It also handicaps scheduling a group of teachers to work together in school-within-school groups of pupils, or scheduling teachers to have a group of pupils in a long period which includes homeroom and one or two subjects, such as English and social studies, in an integrated guidance program.
5. Extra periods for certain subjects like laboratory periods in science or home economics, or double periods in shop, should be eliminated in general high schools. This would result in a great financial saving, make certain learning fields available for most, if not all pupils, and make for far greater flexibility in scheduling classes.
6. Greater flexibility in scheduling hours and movements of staff members should be granted the individual school. Not only should some teachers be assigned during vacation months, but some should also be scheduled to arrive at school late in the day and assist parents and community leaders to facilitate youth activities during late afternoon, evening, and week-end hours. The problem of athletic coaches and their pay is illustrative of the need for this policy. They and other teachers should have schedules covering mainly after-school hours.
7. The semester is now of doubtful value as a school term. The newer concepts of continuous pupil admission and adjustment render unnecessary the waste and strain of tearing the program wholly apart and putting it together again in mid-year.
8. Finally, no particular pattern or label should be regarded as indispensable in curriculum. Several teachers planning together with several groups of pupils may be as effective as a single teacher's having a single group for a number of classes. "Language Arts" is possibly as effective a term as "Communication." Procedure may become as formalized under one label as another. It is observance of the principles governing education as guidance of pupils in successful, democratic living that counts.

INITIATING CREATIVE CURRICULUM DEVELOPMENT

MILES E. CARY

University of Minnesota, Minneapolis, Minnesota

McKINLEY HIGH SCHOOL (Honolulu, Hawaii) is a senior high school of some three thousand students. It was four thousand before the war. One thousand was splintered off by the attack on Pearl Harbor.

McKinley is a cosmopolitan school, representing all the basic races of the Pacific. In fact, about 1936, we made a study of our population and found we had some 155 races and combinations of races. It is even more complex at the present time as the inter-marriage process has gone forward at an accelerating rate. Actually, the people themselves, in many cases, do not know what their ancestry is. They are mixtures of Caucasian, Polynesian, and Oriental. There is a story of a new first grade teacher who was checking up on the racial backgrounds of the children for the official report. She was trying to get a little boy to tell the racial ancestry of his parents. After some questioning she was told that the child's mother was Hawaiian and the father was "sailor."

The subject I am to discuss is one that could be given a great deal of time. If you are interested in making changes in your program, your first problem is one of strategy. The problem of how to initiate changes, so that things do not fly apart, is a very crucial one. I remember how fearful I was—and I say that openly and without shame—back there in 1925 and 1926, 1927 and 1928, during those early years when we were trying to make changes in our program, when we were trying to take the cardinal principles of secondary education seriously and do something about them, when we undertook to use some of the mental hygiene principles and some of our democratic

values as criteria in improving and evaluating our program.

Now, as I look back over our experience during those years, it seems to me that the most useful technique was the technique of conference: calling all manner of people together to work on all manner of problems. And, as a corollary of the technique of conference, there was the technique of getting facts and data for use by the various groups and committees. So that, instead of dealing with unreality, teachers could be helped to deal with real situations. Still another aspect of our efforts to reconstruct the curriculum was that of following up on our studies so that we knew what was happening to our children over a period of time.

In organizing our committees at McKinley, we endeavored to have all groups that were concerned with a problem represented: teachers, students, and parents and alumni. For example, our Parent-Teacher Association is a P.T.S.A.A.: Parent-Teacher-Student-Alumni Association. This process of bringing representative groups together to work on common problems and interests has been going forward for at least twenty years.

Another example of this procedure is seen in our Finance Committee. This committee, which has been meeting weekly for several years, includes the principal, teachers, and students. At different times parents and alumni have been invited to attend these meetings, but they have seldom accepted these invitations.

This principle of distributing and sharing responsibility is seen again in the organization of the McKinley High School government. We saw that

it was unwise to try to make the students believe that they were running their own affairs without the guidance and counsel of teachers and principal. So we established a "school government" in which pupils, teachers, and principal worked together cooperatively in doing the things that needed to be done in the direction of improving the school. The students have accepted this cooperative arrangement. The results achieved in the way of morale and constructive undertakings have justified the new arrangement.

Through the years McKinley has had many standing committees, a score of them, made up of teachers. Then, too, special committees have been created from time to time to deal with emergency matters. These committees have dealt with such matters as school-wide English emphasis, guidance, health, curriculum for the slower learners, curriculum for the superior students, school finance, graduation program, and general policy (Council of Department Heads).

This, in general, is the process that we have followed since 1925 in the development of our program. We have placed our reliance on the method of conference. In this connection, I want to report another bit of personal history. I can remember the time when, as a young principal, I went to school, wondering what was going to happen next and wondering if I would be equal to the occasion—fearful, as I look back on it now. However, I didn't know I was afraid. But, as we began to develop our conference process, meeting all our problems together—students, teachers, and principal working together in the management of the school—those fears began to fade away. And I can say truthfully that the time came when I was eager to go to school, knowing that, no matter what new problem might

arise, our cooperative procedure in solving problems could be relied upon in meeting the new situation.

Now, at this point I should say just a word about the picture which you will see in a moment, "McKinley in Action." It was produced during the last year of the war by the students of the McKinley High School as a school project. It cost them \$3,000. They did it in order to convince you folks on the mainland that they are truly Americans. The young people of Hawaii are very proud of their American citizenship. Over 99 percent of the students at McKinley, and this applies to all our schools—and we have eighty thousand pupils throughout the seven islands—are American citizens by virtue of birth on American soil.

They are also interested in statehood; and you will see in this picture a plug for statehood. The chairman of the committee that produced this movie was a girl of Japanese ancestry, a charming little thing, bright as a new dime, who is now attending the University of Hawaii. The picture, with the exception of the voice, is entirely an amateur production. The students decided which scenes should be used, arranged the sequence, and wrote the commentary. A young man, graduate of a sister Honolulu high school, who was interested in movie photography, was hired to take the pictures, since we did not have a student with the equipment and the school didn't own a camera. We had to have the voice superimposed on the picture in Hollywood. Outside of those two features, the picture is entirely a student project with teacher counseling along the way. Now we will let the students of McKinley High School tell their own story.

(At this point the picture, "McKinley in Action," was shown.)

CREATIVE LEADERSHIP FOR MODERN YOUTH

PAUL J. MISNER

The Public Schools, Glencoe, Illinois

I HAVE been in a lot of tough spots in my life, but I think this is the toughest one. I feel a little bit like the lone pilot who came over the airfield and radioed in that he was five thousand feet in the air with only five hundred gallons of gasoline. The radio tower wired back that he could not land. In a few minutes he radioed again and said he was three thousand feet and had only two hundred gallons of gasoline. The message came back that he still could not land. A few minutes later he wired that he was about out of gasoline and was a thousand feet in the air and what should he do? The message came back, "Repeat slowly after me, 'Our Father Who Art in heaven—'"

In preparing for my part in this discussion, I did something which I commend to some of my colleagues. I read very carefully the instructions that were sent to me by the program Committee. Among other things, they suggested that no matter what I had to say, that it not consume more than thirty minutes and I promise to do it in twelve. I was also instructed to talk about creative leadership with particular emphasis upon the opportunities and responsibilities of the secondary school principal.

Against the background of these directives—mandates, to you politicians—I wish to make four proposals and discuss each one briefly.

My first proposal is that the secondary school principal occupies one of the most unique and strategic positions of leadership in the entire system of public education.

Second, modern youth deserve a higher quality of guidance and leadership than has ever been required of any generation of American youth.

Third, the urgency of the problems that confront us demands that the secondary school principal be willing to exercise inspired and courageous leadership on several strategic fronts at the same time.

Fourth, that in the exercise of his leadership, the secondary school principal should accept the popular football dictum that a good offense is the best defense.

A few weeks ago, the *Saturday Evening Post* published an article by John Bartky, Dean of the School of Education of Stanford University, under the title "The Vanishing School Superintendent." In his article he painted a rather dire picture of the poor, helpless school administrator. He pictured him as the hapless victim of sadistic teachers, disgruntled parents, and rebellious pupils. It was indeed a grim picture and one which would be funny if there weren't so much truth in what he had to say.

In contrast to the position of a superintendent of schools, the secondary principal occupies an enviable position indeed. Historically, his position antedates that of the superintendent. Professionally, his position is identified and associated much more directly and closely with the dignity and prestige of the teaching profession. He has the rare opportunity and privilege to be more closely and directly associated with both teachers and pupils.

I would not, however, attach too much importance to these factors of age and dignity. Over-preoccupation with such comfortable attributes might deter rather than motivate creative leadership. I would, at this point, stress the unique and the strategic position of the secondary school principal be-

cause he is concerned with one of the greatest adventures in democracy.

Since 1900, the number of children from fourteen to seventeen years enrolled in our secondary schools increased from 11 to 73 percent. The President's Commission is now recommending that the opportunity for secondary school pupils be extended to include the thirteenth and fourteenth grades. At the same time the Commission is recommending that opportunities for higher education for youth be vastly extended and improved. I concur with the recommendations of the President's Commission, but I think it will be most unfortunate if, in our efforts to improve higher education, we do it at the expense of needed improvements in our elementary and secondary schools.

I have indicated that American youth are in need of a kind of guidance and leadership that has never been required by any other generation of young Americans. I sat at home last night (which was quite an unusual event) and listened to my radio. I was tremendously impressed by the conflicting values and conflicting problems with which we adults are now confronted and which must become the problems that will have to be solved by our American youth.

We are telling our youth today that atomic energy can be one of the greatest benefactors of mankind that we have ever known, but we are telling them at the same time, with increasing insistency, that it may destroy us before we learn how to use it.

We are telling these young people that they must be world-minded and that they must strive to become effective citizens of the world. But, at the same time, with the continued threats of communism, we are insisting that they should appreciate democracy

and understand and appreciate their own national heritage.

It is very evident that all kinds of pressures are being brought to bear on the passage of the Universal Military Training Bill. In Atlantic City a few days ago, someone was trying to get the superintendents of America to propose a substitute for what some of us believed was a bad bill—that is, bad for American youth—and we were told by a large number of superintendents that we were not in a position as educational leaders to defy military authority. If educators can't speak for our youth, who can?

What was that sixty four dollar word Miles Cary used? I will have to *truncate* my remarks. I think all of the needs have been suggested in one way or another this morning. But, I say to you in all seriousness that the needs of our secondary school youth cannot be met by the traditional kind of educational and vocational guidance that we have known. Whether they wear silk stockings or go bare-footed, the kind of guidance that these youngsters will need in the days that lie ahead will be the kind of guidance that deals with their real personal and social concerns. The young people who come to your high schools every morning bring with them a cross-section of confused life and they are entitled to the kind of guidance that will help them understand the nature of these problems and what they can do about them.

I am deeply concerned that we don't try to meet these problems by any pattern of college entrance requirements. I am persuaded that we won't serve American youth, that we will let them down completely if we continue to talk about guiding them in terms of three units of English, two of mathematics, two of science, and the like.

I have suggested that the secondary

school principal must be prepared to exercise his leadership on several fronts at the same time. I can't add to what has been said this morning on the responsibilities of the secondary school principals to lead in the direction of significant curriculum improvements. Such a program as had already been indicated means vastly extended and improved in-service programs.

I don't believe we are going to meet this problem until we recognize that our present nine-and-a-half and ten-month school terms are just as antiquated as horse-drawn vehicles would be on the streets of Chicago. If we really want to improve the curriculum programs of our schools, we must look upon teaching as a profession. We need to extend our school terms so that there will be time for teachers to do the kind of group thinking, studying, and planning that is so badly needed. And incidentally, it is one way of solving the Universal Military Training problem. If we would extend our secondary school programs and utilize only part of the money that is being suggested for one year of military training to include work experience and camp experience we could do a vastly better job in preparing American youth for either war or peace, than will ever be accomplished by the present proposals.

It has been indicated pretty clearly here this morning that we can't fill the needs of youth without turning our attention to the communities in which our schools operate and in which these youth live. I trust that the report from Floodwood will be given wide publicity. From my point of view, and in the vernacular, I think that project is on the beam.

We need secondary school principals who have the courage to present boldly the needs of youth in the communities

in which they live. I am a bit tired of hearing people say, "Yes, but this is all going to cost money and where is the money coming from?" The American people are now spending three times as much money on liquor and about as much money on cosmetics and cigarettes as they are on education. It is time we had the courage to ask the American people which they value most—the future of democracy, the destiny of their young people, or cocktails, lipstick, and tobacco.

Now, this is my last injunction to you fine people who are suffering so nobly and that is, that a good offense is our best defense. A very reputable superintendent of schools in a very large city of this country told me the other day one of the most difficult problems that he was facing was the problem of moving his elementary and secondary principals in the direction of change. He found teachers quite susceptible to change, but somehow administrators were pretty resistant to change. Some of you are probably aware of the fact that one or two reputable professors of school administration in this country are so concerned about us principals that they are suggesting we rotate the principalship—that we do away with the office of principal entirely.

I am of the opinion that these may be unsound criticisms. But, ladies and gentlemen, I repeat that the best way for us to defend ourselves is to bestir ourselves. I am glad that in Ottawa Hills they have started to wiggle, but I am convinced we are living in times where the responsibility of leadership requires more than a wiggle. The responsibilities are so great, and the time is so late, that in addition to a little squirming and wiggling, there ought to be a little open field running.

THE EXPANDING RÔLE OF HIGHER EDUCATION¹

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I HAVE chosen today to speak informally rather than to read a paper.

I should like to say first that I hope you will read the report. I think it has been misread and misinterpreted frequently. I suppose every member of the Commission would say that the report is not infallible.

Although it is not beyond criticism, this is the first time, so far as I know, that a red herring has been pulled across its trail. How anyone could find suggestions of regimentation in it is inexplicable to me. Certainly it presents no detailed curriculum or no detailed educational program. Nowhere in it is there the nomination of an educational commissar. So far as I know, there was nobody on the Commission who thought he was called to this office.

Although the Harvard report on general education spoke with a tone of authority, even for secondary schools, very few people have considered it to be infallible in spite of its wide use and widely favorable reception. It seems to me that it is about as foolish to suppose that the Commission report would be imposed on anybody or any institution as to assume that all of us should conform to the Harvard report.

I suppose the proposal of the Commission that has received the widest comment is that we should set as a goal for 1960 an enrollment of 4,600,000 students in higher education at all levels.

¹ This address and the four which immediately follow are five of the six which comprised the discussion of the *Report of the President's Commission on Higher Education* before the First General Session of the Association, March 11, 1948. The editor regrets the fact that the manuscript for Lewis Webster Jones's address is not available for publication owing to circumstances beyond Mr. Jones's control.

There have been various misinterpretations of this recommendation. The commonest is that the Commission *predicted* an enrollment of that size. Actually it said that such an enrollment by 1960 would be desirable. Personally, I do not expect to see 4,600,000 students in higher institutions by 1960, although Dean McGrath, when we were both on the Chicago Round Table recently, disagreed with me. The critics have charged that the Commission's proposal greatly to expand college and university enrollment would flood our institutions with students of low academic ability.

Most of the people who have made that criticism seem to have forgotten that there are thousands of high school graduates of high ability who have not been able to attend college at all. In my own state, for example, only one out of three students in the highest third of the graduating class have been able to go on with any kind of post-high school education.

I suggest that instead of arguing too long about the total number of students who should go to college, we emphasize the importance in American society of making available to students of the highest levels of ability the opportunity of a college and university education.

Another misconception of the Commission's proposals is that the greatly increased enrollment would have to be cared for in our present institutions. I think the Commission hoped that some of our colleges and universities would be able to take more students, but you must remember that it recommended the wide-spread establishment of community colleges that would make available to a great many students

who otherwise wouldn't be able to go on, at least two years of appropriate education beyond the high school. The Commission took the position that a large part of the increase in college enrollment should be cared for in these local or regional institutions. The Commission recommended essentially the same kind of comprehensive educational program that has been proposed recently in California and New York. Both states look forward to a considerable expansion of community colleges.

A third misinterpretation is that the Commission assumed that all future college students will be able to profit from the particular kinds of curricula now generally offered in four-year liberal arts colleges and universities.

The Commission made no such assumption. On the contrary, it emphasized the importance of differentiating post-high school education in accordance with individual characteristics and social needs. It indicated that different kinds of curricula and different kinds of institutions would have to be devised to meet diversified interests, aptitudes, and goals.

Along with many other people who are thinking carefully about the problems of higher education, I, too, am concerned lest the intellectually gifted student become the forgotten man, I believe it is fair to say that we have done a better job in this country of extending educational opportunity than of individualizing it.

I think that anyone coming from a large state university should be particularly concerned about means of adapting higher education to the needs and abilities of talented young people. I do not believe that we have solved this problem too well even in the smaller colleges and universities. But I agree with Dean Blegen that we can adjust curricula and methods of instruction to exceptionally promising

students if we put our minds and our ingenuity to work on the problem.

While granting the importance of doing our best for the ablest students, do you think that we should turn back the leaves of educational history in this country and move from our present democratic secondary school of seven million young people back to a small selective secondary school of three hundred thousand, such as we had in 1890, or to any point you choose between the two enrollments?

But could you reverse the historical trend if you wished to do so? I think the answer to that is clear. You couldn't. American society couldn't. The very nature of our society makes it not only necessary but also inevitable that if we don't have 4,600,000 students in some kind of formal education beyond the high school by 1960, we will at least have many more in the future than we have at present.

President Truman, you will remember, asked the Commission to review the functions and programs of higher education in relation to our national life and to international affairs. The Commission therefore emphasized particularly the social obligations of higher education. It stressed the importance of the following goals: first, education for a fuller realization of democracy in every phase of our life; second, education directly and explicitly for international understanding; and third, education for the application of creative imagination and trained intelligence to the solution of social problems and to the administration of public affairs.

The Commission went on very briefly and quite generally to indicate what education for a fuller realization of democracy involves. The Commission realized that the fullest possible development of the individual as a man as well as a citizen is a first call

upon education in a democracy. It emphasized the social obligations of the educated person not because it did not appreciate the significance of personal development, but because the crisis of our time seemed to make it necessary for the Commission to say that education at all levels should deal directly and explicitly with problems of human relationships in national and international life.

Education for full realization of democracy involves more than willingness and eagerness to accept social responsibility. It involves profound understanding of the meaning of democracy. It means learning democracy as activity as well as doctrine. The whole of the student's life in an educational community should be an experience in acting democratically with those with whom he is associated.

The Commission said that education for international understanding should involve, among other things, the following: a study of all aspects of international affairs not by a few students but by all; a study of the nature and the development of other civilizations and cultures including of the East as well as of the West. It asked for a study of nationalism in relation to internationalism, for an examination of tensions leading to war and of war as an instrument of national policy in international affairs. It asked for a systematic consideration of the instruments of peace and the means of international cooperation and organization, on the ground, I suppose, that peace isn't something wistfully to hope for or trustingly to pray for, but something to plan for and to work for, something for which we need to invent the necessary social instruments.

I shall not go on with an explanation of what the Commission meant by education for American life and international affairs. I have given you a

brief sample. I hope you will continue the sample by your own reading of the report.

Finally, the Commission took the position that education for social understanding and social responsibility should constitute the core of a unifying general education for all students.

Some of the Commission's critics seem to take the position that the advantages of a liberal education can be enjoyed only by a small intellectual elite. For example, the president of a very good liberal arts college, a president for whom I have the greatest respect and for whose institution I have the greatest admiration, has taken the position in my hearing that the values of humanistic studies can be attained only through intensive disciplinary effort and has implied that those who cannot take the time for that kind of extended study must of necessity be deprived of any general education in the humanities. He considers it essential that persons who possess a "complete" liberal education should take the leadership in American society, a proposition with which most of us would agree. I submit to you, however, that these few are unlikely to be accepted as leaders if the great body of reasonably intelligent citizens have no basis of communication with them.

This is the fundamental fallacy, it seems to me, in the notion that a few should have an extensive liberal education and the many no serious contact with it. A bond of understanding, a basis for cooperation between the leaders and the led is essential in a democracy, though not so important in an aristocratic society. There must be between the leaders and the led, then, not a great gulf, but a bridge of understanding and respect, a common spirit and a common purpose. We ought to give the talented students the most complete and thorough liberal

education possible. But in our society we need wide dissemination of social intelligence and moral and ethical conviction, as well as outstanding social and intellectual leadership. That, I think, is what the Commission really had in mind.

It has been asserted that the Commission's proposals were based on the assumption that there are no degrees of ability, that efforts to establish such degrees are unworthy, and that selection of students in terms of academic aptitude is undemocratic. I suggest again that you read the report. You will find in it no assertion whatever that selection of students by particular colleges or universities is undemocratic.

It happens that I have had experience as student, teacher, administrative officer, and member of the board of directors of a small college to which I have great loyalty. I think I understand the importance of institutions which are highly selective in terms of student ability and of function. But I also believe that other kinds of institutions are needed to serve other kinds of students and to give other kinds of curricula.

The College with which I am now connected is a highly selective college of liberal arts so far as state universities go, but we have made provision in other divisions of the University, in the General College, for example, for the students whose abilities are not so outstanding as those in the College of Science, Literature, and the Arts. We do not assume, however, that students in the General College are incapable of profiting in any degree from liberal studies. While the courses in general education in the two colleges differ in scope, organization, and difficulty, we hope that they possess a great deal in common in spirit and purpose.

It seems to me that what we need in our society is to give all the students, whatever their special interests, whatever their special talents, whatever their vocational or professional fields, whatever the extent of their intellectual capacities, an education that humanizes, an education that socializes, an education that has first and last to do with the problems of men. That, I think is what the Commission was trying to suggest for American colleges and universities.

ORGANIZING HIGHER EDUCATION

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It is a privilege to participate in this symposium dealing with an epoch-making report. Wise social architecture calls for such blueprints of planning to meet recognized needs. The Commission is to be commended for producing this comprehensive report. A document as extensive as this, and carrying as it does far-reaching implications, merits wide public attention. Already the national press has given it considerable headlining; this, however, covers just one phase of appraisal. Programs and plans have a tendency to become ends in themselves and thus in many cases give democracy a false sense of achievement. The task from now on as the Commission points out, is one of organization. Groups of all types must be alerted to its significance, to engineer critical inventories of its features, and to consider possibilities of implementation. Our several constituencies, both public and private, should be urged to give it careful consideration. Seeing that it involves federal action, it is the more essential that its proposals should percolate to the grass roots of our national life.

Some might well say that the Magna Charter of the report is given on Page 3, Vol. 3, which reads as follows: "The principal function of government in the field of higher education is to facilitate the free exercise of initiative and self-direction by educational leaders and institutions under their own devices. Government, both federal and state, can best safeguard the vast stake it has in the development and maintenance of the strongest possible system of higher education by exercising leadership rather than by authority."

This can well become a major index for measuring the validity of the program. If this philosophy is adopted, a flexibility and freedom in the form of organization is assured. Quality and variety of creative approaches should be fostered rather than a brittle conformity to a centralized formula. The Commission is wise to safeguard the individuality and spontaneity of form so much a part of American education. We need to be aware of how a centralized national program could quickly dominate the existing freedoms of state and local organizations. The very logic of the situation demands this emphasis. Dr. William Boyd in a reissue of his *History of Western Education* remarks in the preface: "The democratic principles hitherto accepted for the schools, even more than for politics, have been challenged everywhere, and great nations have set themselves to shape the minds and characters of old and young in utter despite of personal values." In 1945, the American Council on Education and the Educational Policies Commission of the N. E. A. published a pamphlet on "Federal State Relations in Education." It is a trenchant statement embodying warning towards a dangerous drift. May I quote one typical sentence: "Education should be placed high on the list of services to be continued under state and local control. The ability to make distinctions as to what should be and what should not be centralized permits some nations to preserve their liberty. Those which cannot so distinguish succumb first to totalitarianism and then to despotism."

It can well become a habit to gravitate towards federalization in organiza-

tion as the source of our greatest promise of progress.

There are rightful areas of responsibility in education for the Federal Government, as the report points out. The U. S. Office of Education has done effective work and, I think, discharges its responsibilities with a critical sense of impartiality. There could well be a pooling of these various educational agencies to make coordination more realizable.

The reference to UNESCO needs all possible support by educators. It is a basic weapon for peace and yet has received but niggardly support both in terms of opinion and financial aid. A "brave new world" has been dwarfed by the never-ceasing emphasis on U. M. T. to the submerging of other agencies for world understanding. While wise preparedness is essential, more governmental support should be accorded other durable and ultimate approaches to peace such as UNESCO.

The emphasis on equality in education, lifted to a higher level, is a valid and indisputable goal for our democracy. The recent G. I. experience has given a good base for further development. No barrier of any type should bar the young person of ability from participating in the benefits of higher education. To be strong a nation must develop its potentials. To approximate the estimated numbers of youth even who will be eligible for this training calls for a creative approach to organizational forms. If our imagination does not exceed the commonly accepted forms of current higher education, then the solution of a massed program will be disappointing. Professor S. E. Harris of Harvard, an economist, has stated that "we are fast establishing an A.B. and Ph.D. proletariat-frustrated educated man. An examination of occupational distribution does not suggest that there are jobs which will

support college graduates in employment to their liking. In 1940 professional and semi-professional workers accounted for only 7 percent of all jobs." (Quoted in *Time*, December 29, 1947, page 46.) This criticism is predicated on the supposition that we will have only one type of post-high education. A definite differentiation of forms is certainly called for and suggested by the Commission. Fortunately, or unfortunately in America, we have broadened the term and concept of college, with a resultant prestige, sometimes fictitious, which has stifled in some instances other forms of organization on the upper level. Secondary education has sensed this need for variegated programs much more clearly than many of us. We would do well to experiment further. In this we do not suggest dilution of sound educational ends. Quality in work, training in the art of incisive thinking should be possible in different forms and on all levels. In a world of complexity, confusion, pressures, and clever propaganda we must succeed better in educating youth and adults to penetrate beyond the facades and the iron curtains prevalent everywhere.

Britain with its new program of mass education is spanning the spectrum of types to meet various needs. A large number of young men will work and go to college one day a week. At the other extreme many will receive scholarship aid to qualify as entrants into graduate schools for research work. Fortunately, over there they are not as diploma or degree conscious as we are here. The strength of the workers education movement and other aspects of adult education has taken significant hostage because of the freedom from the pressure and stereotypes of "credits" and "diplomaism." In many respects the high school, with a recognition of an en-

larged scope, may be a suitable center for much of this continuing education. All of this calls for a close coordination between the high school and the college to say the least.

The report brings into focus the importance of organization at the state level. If it is ineffective here, then the trend towards federal supervision is quickened. Both private and public education should be equally concerned in fostering sound public opinion and support for the building of a strong state department of education. The questions of status and prestige: opportunities for better coordination; the engineering of state-wide programs and research; the freedom from political interference; the forced necessity of keeping one eye on the job and the other on forthcoming elections, are largely within our area of guidance and control.

The variety of forms and techniques now in existence make possible a rich promise of a composite workable organization at the state level which will aid all types of educational effort and standards within the area. Above all it is not too remote from its sphere of service as to become impersonal or authoritarian.

As a representative of private education, speaking as an individual, of course, we heartily commend the report and gladly share in the larger program outlined. The rank and file of these independent colleges, while being in the main colleges of liberal arts, provide training for youth for the professions, including education, business, industry, etc. They serve a cross section of the youth of America; a large number of them, while being residential colleges, serve their respective communities, and in this sense are "community colleges." They have done noteworthy work in meeting the expanded needs of the post-war period,

and in this have been aided by the government in the form of temporary facilities, surplus equipment, and scholarships.

Generous and sincere recognition of the established need of these independent colleges has typified the attitude of the leaders in public education. This report recognizes quite clearly that their continuance on a high productive level is imperative in order to maintain the peculiar advantages of our traditional system of education.

Education has had too meager resources for the magnitude of the tasks it is expected to perform. It is hoped that the effect of such increase in financial organization will stimulate private education to secure more resources. If this is not done, then, at a time when these institutions have such a vital role to fill in American education, continuation on a marginal and restricted level will be the destiny of many of them.

The Commission report is far too sanguine about the availability of resources from private sources. Differentiation must be made between the small percentage of private institutions with large endowments and financially able alumni and the large number of colleges that have little in the way of endowment but yet are doing a creditable piece of work.

The reduced return on endowments is a significant handicap. Furthermore, the newly emphasized program of living endowment, even in the top section of institutions, falls far short of keeping pace with rising costs and needy services. In addition the constituents of the private college are contributing their share to other voluntary and philanthropic intents and rightly so.

The frontier is indeed a critical one and demands most serious appraisal by the interested alumni, churches, and friends who believe in their purposes.

Those that are church-related need definitely to respect the values and standards inherent in their organization. Their needs must be dramatized and supported. This is no time to retreat from their traditional objectives.

Believing fundamentally in the separation of church and state we appreciate the recommendation of the Commission that private institutions may share in the suggested program of scholarship aid, without interfering with that traditional constitutional separation. The pattern of the G. I. Scholarships sets a precedent for scholarship aid to all qualified institutions. In fact, state boards of education could well consider a similar broad allocation of scholarship funds, leaving with the student his choice of a college. Our colleges also will hope that the Federal Government be more liberal

in tax exemption policies for gifts to both private and public institutions of higher learning. If private colleges are unable to function, then the entire financial responsibility would rest with the state; in this sense a liberalizing of the tax structure pertaining to gifts is an economic advantage to the government.

In all organization in our field with the extension of facilities and resources must go the application of high moral purpose. Merely extending the base of operations is not enough. Senor Salvador Madariago said in an address at a European University last month, "We are living in a gap between a highly developed mechanized solidarity and a poorly developed moral solidarity." Ladies and gentlemen, we are at the task of bridge building using content, of course, but also utilizing cultural, moral, and spiritual forces.

STAFFING HIGHER EDUCATION

EARL J. McGRATH

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As I see it, President Hollinshead believes as we do that the training of teachers for the colleges and universities is not as good as it should be. He agrees moreover that something should be done about it. I think we differ in this respect, that the Commission gives more concrete recommendations concerning what we should do. He agrees with us that it's not alone in the matter of training, but also of selection. That is, we must pick the right people before we begin to educate them, but then he says, as the Commission does, that their education should be improved in two respects.

It should be broader and more liberal and they should be given the technical skills which teaching requires. He says, furthermore, that all types of institutions must cooperate in this effort if it is to be done. The Commission says the same thing. He says furthermore that in the last analysis improvement in teaching will come only through the efforts of the teachers themselves. That statement, too, you will find in the Commission's report.

The one controversial point on which I am sure the members of the Commission would never agree with President Hollinshead is that our recommendations if carried out would lead to socialization of the system of higher education in the United States. This none of us contemplated and I am sure none of us would advocate.

I have sketched out very briefly what I consider to be the leading recommendations in this volume. I hope as I go over them that you will observe the extent to which they do conform to the objectives in President Hollinshead's speech.

The problem of staffing institutions

of higher education has a quantitative and a qualitative aspect. More teachers, administrators, and other officers are needed to man the colleges and universities of this country and they must be definitely more prepared to discharge their responsibilities than are those who occupy such positions today.

Considering the quantitative aspect of the problem first, it may be said that if student enrollments in 1960 come nearer reaching the figures mentioned in the report of the Commission, the size of college and university staffs will have to be temporarily increased.

There were two and a third million students to be observed in the academic year 1946-47. To teach these students and to administer the institutions which they attend, about 155,000 persons were employed. This total staff represented a ratio of one teacher or administrative officer to every fifteen students for the nation as a whole. But there was a wide range in ratio among the various institutions, one reporting as high as 33 to 1. Assuming that student enrollment were to rise to 4,600,000 by 1960, and assuming that the student faculty ratio in the thirteenth and fourteenth grades would be 20 to 1, in the supercollege years 13 to 1, and in the graduate and professional schools 10 to 1, the total number of teachers and administrative officers needed to serve these students in 1960 would be 350,000.

This figure represents 195,000 more staff members than are now in college, but by the time 1960 comes, many of the present staff members will have died, retired or entered other occupations. Hence, the task of producing an adequate staff is further increased.

It is estimated that the agencies which prepare personnel for higher institutions will face the job of turning out 250,000 graduates or partly prepared persons by 1960 or approximately 20,000 a year. When you recall that in the last year for which figures are available, 5,787 Ph.D.'s were turned out, you get some idea of the magnitude of that task. When one reviews the attraction of government and industry, the salaries in the academic profession, the difficulty of increasing the size of faculty to train the new crop of teachers, the inadequacies of plant and equipment, and the rigidities within the graduate school, he realizes that if the high ideas of extending higher education described in earlier volumes of this report are to be realized, a superhuman effort will have to be made by every one concerned in the education of college teachers and administrators.

No business approach to this problem will produce the desired results. There is not the chance that 250,000 new college teachers and administrative officers will enter academic work by 1960 unless a vigorous recruitment campaign is launched and unless the profession is made more attractive to prospective members. To this end the Commission made several recommendations for recruitment: First, securing promising young men and women for teachers by such efforts as the organization of the various professional associations in a continuing and active recruitment effort. Second, the establishment of numerous fellowships from federal, state and private funds to be used by advanced students of high scholarship and potential leadership in the profession. Third, the development of local groups of teachers to encourage youth, ability and character in their own classes to enter college work. Fourth, the establishment

of a national agency for the interchange of information about opportunities in academic fields. Fifth, the raising of salaries providing increasing assurance and annuity benefits and reducing the excessive burden of work now carried by many teachers and administrative officers. This would make the conditions in the profession more nearly comparable in attractiveness with those in other professions.

But it is not merely a matter of producing more of the same kind. The Commission recognizes the high quality of the present product of the graduate schools. These institutions have sent forth a steady flow of teachers and administrators in many respects competent and distinguished.

In other respects, however, the Commission knew something was left to be desired. As pointed out in volume 1, the young people of this and succeeding generations must be better prepared for the responsibilities of citizenship in a complex and rapidly changing world. Such instruction must be provided largely, though not entirely, in an improved program of general or liberal education at the college level.

In the opinion of the Commission, the institutions which prepare college teachers have not been successful in producing the type of teaching staff capable of providing an adequate general education for the youth of today.

The Commission says that specialization is the chief obstacle to the development of an adequate program of general studies. It has filtered downward from the graduate and professional school levels, and has taken over the undergraduate years too. In the more extreme instances it has made of the liberal arts college little more than another vocational school in which the aim of teaching is almost exclusively preparation for advanced study in one or another specialty.

This tendency has been fostered, if not produced, by the training of college teachers in the graduate school where they are imbued with the single idea of an ever-narrowing specialization.

The Commission believes that the graduate program for college teachers should be so altered as to provide a core of unifying, synthesizing studies running throughout the period of preparation to assure the students possession of a broad general education as well as competency in a field of education.

A second inadequacy in the training of college teachers recognized by the Commission is the absence of any concern about the skills used by the proficient teacher in transmitting knowledge to others. On this point the Commission says the most conspicuous weakness of the current graduate programs is the failure to provide potential faculty with the basic skills and the art necessary to impart knowledge.

College teaching is the only major learned profession for which there does not exist a well-defined program of preparation directed toward developing the skills which it is essential for the practitioner to possess.

The objectives which higher education seeks to achieve cannot be reached unless there is realism in the programs for preparing college teachers. To correct the present deficiencies in the professional preparation of college teachers, the Commission believes that prospective teachers should from the very beginning be conscious of their vocational objective, that is, they should be selected for their demonstrative aptitudes for teaching and they should, throughout the graduate years, think of themselves as teachers and not research workers or government employees.

During their graduate years they should receive some instruction in the

art and science of teaching and, more important still, they should be required to serve an internship during which they would have the opportunity to practice the art of teaching under the supervision and guidance of a master teacher.

Moreover, at the conclusion of the training period they should receive some suitable designation from the graduate school showing that they are qualified to perform their professional duties. This certificate or diploma is not intended to supersede the Ph.D. degree, but rather to signify that in addition to knowing something about his subject, the recipient of the degree also knows how to teach it.

To increase the value of this certificate, the Commission recommends that administrative officers in colleges which employ the products of the graduate schools, give special consideration to candidates who possess this evidence of professional ability. Recognizing that the proposed reforms will be slow of realization and that the emergency is acute, the Commission considered certain immediate measures for the upgrading of the profession within the present teaching staffs.

These include first, co-operative study groups or informal faculty meetings at which fundamental education problems are discussed and research dealing with the improvement of instruction stimulated. In this connection, it may be remarked that instruction has been improved in a number of institutions in recent years through such joint efforts as the cooperative study in general education of the American Council on Education centralized at the University of Chicago and the North Central study on the improvement of teaching directed by Dr. Russell Cooper, of the University of Minnesota.

Second, intervisitation among insti-

tutions in which promising experiments or innovations are being attempted in curriculum in teaching.

Third, faculty members might well be relieved of their duty for a regular period to take sabbatical leaves to continue graduate study to refresh themselves in their own field or carry on research designed to improve their teaching.

Fourth, direct teaching has been suggested as a means by which the more experienced and capable members of the staff can aid younger persons to improve their skills and their knowledge.

Fifth, the judicial use of student ratings of teacher performance by individual faculty members or groups has been successful in improving instruction in some institutions and with proper safeguards has possibilities for wider use if the results of such investigations are not used unwisely by administrative officers.

All these recommendations will be

helpful in providing increasing numbers of staff members for institutions of higher education and in improving the quality of these staffs.

There must be the awakening of the public to a sense of their responsibility for encouraging the ablest youth of the nation to choose careers in higher education, for cooperativeness with local institutions in provision for special services and for providing funds adequate to meet the expanding needs. The task ahead of providing faculty personnel adequate for the kind of higher education our nation requires places a tremendous responsibility upon our democracy.

That responsibility is one which must be borne collectively by public and private agencies, by lay and professional citizens, by teachers and by administrators. Only combined efforts can meet the challenge, the challenge to improve democracy by improving higher education.

FINANCING HIGHER EDUCATION¹

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LAST but not least among the reports of the President's Commission is the volume, "Financing Higher Education." It is fitting that this report should be last because, after all, finance is the means whereby we implement and put into effect our goals.

The program which has been discussed here this afternoon by the previous speakers and which is outlined in the first four volumes of the report of the President's Commission makes it clear that the expenditures in the future for higher education must be vastly expanded. It is also clear that the great expansion advocated will, of necessity, be provided in public institutions and supported by public funds; that the great increase in expenditures will profoundly affect the pattern of supporting higher education in America; and that the federal government will have to play a new and greatly expanded role in the support of higher education.

The fifth volume of the report of the President's Commission advocates that by 1960 we should be spending \$2,600,000,000 for the current operating needs of higher education. This is five times the amount we spent before the war. It is two and one-half times the amount we spent last year. But it is quite clear that such an expenditure is needed if we are to have 4,600,000 students, 350,000 faculty members, a great expansion at the thirteenth and fourteenth year level, no tuition fees in public institutions, and a reduction of tuition fees in all publicly controlled institutions.

It will be necessary, according to

the report, to provide more adequate salaries for the staff if we are to expect the quantity and quality of instruction which is needed. It is proposed also that we increase expenditures for library needs from the pre-war level of thirteen dollars per student to twenty dollars per student. Additional expenditures likewise will be needed to provide for the adequate maintenance and repair of physical facilities. We all know what has happened in this area during the war because of high prices and shortages of labor. Great increases in expenditure will be necessary on nearly all of our campuses to restore operation and maintenance to a satisfactory standard.

Additional funds will be needed for research. The importance of research has been emphasized repeatedly by other speakers. The President's Scientific Research Board recommended that \$400,000,000 be spent annually by 1957 for research in this country. The President's Commission stated that at least \$100,000,000 of this should be borne by institutions of higher education. Expanded programs of adult education and extension services were advocated meaning that, instead of some \$35,000,000 spent in this area before the war, we will need to spend nearly three times that, or around \$100,000,000, by 1960.

Comparable increases for current operation purposes will be needed in other areas in our program of higher education. But this is not all. It is obvious that the tremendous expansion proposed by the President's Commission will necessitate a tremendous additional outlay of capital facilities. In the pre-war period we had an average of 155 square feet per student for

¹ This is the stenotypist's report of Mr. Allen's address. He spoke from a prepared outline only.

classroom purposes. Even that was not considered adequate in many cases. Following the war, with the great influx of veterans, that average was brought down to 110 square feet per student. To restore the pre-war average of 155 square feet per student for the program recommended by the Commission will require an additional 448,000,000 square feet of classroom space by 1960. In 1946-47 the cost of constructing and equipping instruction facilities was estimated between eighteen dollars and twenty dollars per square foot: hence, the total value of the additional facilities needed by 1960 will run over \$8,000,000,000. Divided equally over the next twelve years, this means that \$672,000,000 in additional funds per year should be spent for capital outlay.

In summary then, the cost to provide the quantity and quality of higher education advocated by the Commission for 1960 will be: \$2,600,000,000 for current purposes; \$672,000,000 annually in capital funds, or a total of three and one-quarter billion dollars. This is truly a tremendous sum compared with what we have been used to spending for higher education. And, of course, in addition to this it has been advocated that a national scholarship program be provided leading eventually to approximately a billion dollars for that purpose.

How then shall this tremendous budget outlay be financed? By no stretch of the imagination can private funds be expected to bear any major part of this proposed expansion.

Several facts make this clear. Since 1936 higher education has received a steadily diminishing share of total contributions from philanthropy. Neither capital accumulations nor endowment income has kept pace with increasing enrollments. Despite the fact that in total amount contributions for higher

education from philanthropy have been increasing, they still amount to a relatively small part of the total funds needed for the support of the nation's colleges and universities.

Another point in this connection is that private contributions are highly concentrated in relatively few institutions. For example, in 1942, two-thirds of the endowment held by institutions of higher education was held by forty-six of the one thousand private institutions.

Experience has shown that philanthropists tend to give to capital projects rather than to current operating needs. However, as President Whitehouse has indicated, the potential from this source is far greater than is indicated by what has been received in recent years. For example, if the average contributions were increased from 2 to 5 percent of our total income as reported on the income tax returns, it would result in approximately \$6,000,000,000 additional funds from philanthropic sources.

The Commission points out, however, that the main reason for our not obtaining—not getting hold of—more private funds for higher education is the fact that institutional fund raising programs have not been well enough organized and planned to do the job which needs to be done. We need only to look to see what has been done by our community chests and by many other organized groups in recent years to see what can be done if institutions of higher education will get together and make use of some of the methods that have been found successful by other groups. But despite the possibility of greatly increased funds from private sources, the Commission did not think it reasonable to expect more than a doubling of income from this source by 1960.

The second source of income for

higher education is student fees. Before the war, student fees provided one-third of the income of all institutions, 60 percent of that for private institutions. Percentage-wise, the increase in recent years from this source has been more rapid in public institutions than in private institutions. The implications of this fact have been pointed out by a previous speaker.

The Commission has recommended that no tuition fee be charged in the thirteenth and fourteenth year programs in publicly controlled institutions and that the fees be reduced to the pre-war levels in all publicly controlled institutions. The decision regarding fees is, of course, one of major policy, bearing directly upon the problem of equalizing educational opportunity. For the purpose of estimating probable income from this source, the Commission assumed that the privately controlled institutions would stabilize fees between the 1939 and 1947 levels or at approximately \$300 per student.

Obviously then, neither student fees nor private sources can be expected to carry any major part of the cost of the proposed expansion of higher education.

Let us turn now to public funds. We look first at local government. We cannot expect a great deal of help here. Local government is already carrying a heavy burden in providing the lion's share of the cost of elementary and secondary schools. The weaknesses in local support have been pointed out frequently by people in school finance. For one thing, it is an inflexible means of financing education; local taxes do not reflect adequately changes in prices or rises and falls in taxable income. Furthermore, 80 percent of the income of local government comes from the property taxes and I need not tell you of the weaknesses there, particu-

larly on the assessment side. Also, many of the states have statutory tax limits which control the amounts local government can spend for education and other purposes.

It seems clear, therefore, that we can not expect a great amount of money from this source in carrying out the proposed program of higher education, except possibly in a few of our urban areas and some of the wealthier communities.

From state governments real possibilities for additional income exist. The Commission pointed out that many of the states are doing very little now for higher education. Many of the wealthier states—New York and New Jersey, for example—will be found at the bottom of the list in the proportion of the cost of higher education borne by state appropriations. If all the states were to make the same effort as was made by the states which made the greatest effort prior to the war, the total from this source would be \$1,000,000,000, a really substantial amount toward the proposed budget of \$2,600,000,000.

But the states alone cannot do the job. They differ widely in ability, and many of them, because of the funds they are putting into elementary and secondary education, are providing all for education that they are able to provide. If we add together what appears to be the potential from the states, from local government, from student fees, and from private sources, we still find an estimated deficit of \$638,000,000 to meet the program proposed for higher education by 1960. The Commission points out that the federal government is the only real agency able to balance the budget and erase that deficit.

Having come to this conclusion, the Commission turned its attention to the basic principles which should

serve as a guide for an expanded role of the federal government in higher education.

First, it said that, in its relationship to higher education, the federal government should recognize the national importance of a well-rounded and well-integrated program of education for all citizens regardless of age, sex, creed, or economic or social status.

Federal funds for the general support of institutions of higher education should be distributed between the states on an equalization basis. That is one of the basic principles that should be followed. The role of the federal government should be that of an equalizer.

The federal appropriations for the general support of higher education should clearly recognize the responsibility of the states for administration and control of the educational program.

We do not want federal control. The Commission did not believe that federal support necessarily means federal control. Adequate safeguards, however, should be established by the federal government to insure the full realization of purposes for which aids should be granted. Federal funds for the general support of current educational activities and for general capital outlays should be appropriated for use in institutions under public control only. That, of course, was one of the major issues before the commission. It is a major issue any time you talk about federal aid for education, and it is one of the issues on which two members of the Commission dissented.

Federal funds provided for scholarships or grants-in-aid for the purpose of helping individuals of special talent to obtain equality of opportunity in higher education should be paid directly to the qualifying individuals. The individuals should then be able to

select the institution which they desire to attend. The commission also advocated that the federal government should continue to make contracts when the need demanded with individual institutions, publicly or privately controlled, for specific services authorized by national legislation.

There are three basic principles then: first, that the federal funds for general operating purposes and for capital outlay should be made available to public institutions only; second, that the federal funds for scholarships should be made available to all individuals of ability regardless of race, creed, color, or economic status; and third, that federal funds may be used on a contract basis by both public and private institutions.

With these principles as a guide, the Commission proposed the following plan of federal aid:

1. That a national program of scholarships beginning with \$120,000,000 be established and put into effect in 1948-49.
2. That a national program of fellowships be adopted, beginning in 1948-49 with an appropriation of \$15,000,000 and increasing to \$45,000,000 by 1952-53.
3. That federal aid for current educational expenditures be appropriated, beginning with \$53,000,000 in 1948 and 1949 and increasing to \$265,000,000 in 1952-53.
4. That the plan of distributing federal aid should be on an equalization basis worked out in accordance with an objective formula, taking into account the needs and abilities of the various states to support higher education.

For capital outlay, the Commission recommended that one-third of the cost be provided by the federal government and two-thirds by the state, and that the federal government should grant \$216,000,000 or one-twelfth of the total needed from federal funds in 1948-49, and equal amounts thereafter until 1952-53. Again the proposal was that these funds should be distributed on an equalization basis.

Certain conditions were set forth

for participation by the federal government in financing higher education, including the conditions that federal aid must be spent to assure equality of opportunity within the states and that an equal expenditure of federal funds should be made between white and Negro institutions without a reduction of the proportion spent by the state for higher education of Negroes.

Can the nation afford this vast program of finance for higher education? The Commission's answer was a definite "Yes." It points out that less than one-half of one percent of our gross national product in this country was spent for higher education in 1947, a year when our expenditures were at the top; prior to that time, the trend had been downward in terms of the ratio of expenditures to our gross national product. The net cost of the program recommended by the Commission would still be only one and

one-half percent of our gross national product—still a very small figure.

But the important fact is that this large expenditure is an investment and not a cost. In the Commission's own words: "It is an investment in free men. It is an investment in social welfare, better living standards, better health, and less crime. It is an investment in higher production, increased income, greater efficiency in agriculture, industry, and government. It is an investment in a bulwark against garbled information, half truths, and untruths; against ignorance and intolerance. It is an investment in human talent, better human relationships, democracy, and peace."

The true answer, therefore, to the question, "Can America afford the recommended program?" is: America cannot afford *not* to pay the cost of a strong program of higher education.

SUMMARY OF THE SYMPOSIUM

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IN an attempt to establish the goals of higher education the Commission did not follow the procedure of crystal-gazing, of attempting to predict, recognizing that predictions always are dangerous and, in terms of the fundamental character of the report in this instance, would be definitely unwise. Instead, they turned to a twofold approach; first, to appraise the need of the nation, not only in terms of vocational outlets of higher education, but also in terms of the great national challenge and international issues that the nation is today facing.

They turned secondly to the matter of the potentials of youth in terms of the numbers that could reasonably be expected to profit from higher education. In statistical procedures that were used by the armed forces they made separate funds of the eleven million men who had taken the AGCT and on that basis, together with the basis of the number of persons, that potential was first arrived at on a percentage basis and then multiplied by the number of known persons between eighteen and twenty-one years of age. In other words, the potentials of the Commission are not, in a sense, predictions. They are simply frank, clear statements as to the national need on the one hand and the number of young people in this great nation of ours who can reasonably profit from higher education on the other.

In terms of equalizing opportunity, the Commission discussed it first from the economic aspects and secondly from the point of view of discrimination and segregation, recognizing very frankly that segregation is a deep-seated policy in American life. Dr. Jones has said progress must be gradual over the

years ahead and cannot be a game; in this I quote the report of the Commission. The situation cannot be resolved by legislation or by presidential decree, but certainly we must continue to move forward on both of those fronts.

In terms of organization, the Commission recognized a very complex relationship in higher education and a very close relationship to the rest of public education, elementary and secondary education. You will note that they stressed very much the strengthening of voluntary organization on the one hand and legislative organization on the other.

In terms of staffing, the Commission pointed out that it is not only desirable that there be developed a definite program of preservice education with internships, but also that in-service education be a constant part of the upgrading of individual faculty members. It has been interesting and gratifying, in these months since the report was issued, to note that a number of institutions have written to indicate that they are attempting to carry out some of these recommendations on in-service education, especially the development of the central services to assist in the effectiveness of instruction which is, after all, the key to higher education in the United States.

In terms of finance, it was emphasized that no one element of government, neither private nor public sources alone, can carry this tremendous job, this tremendous challenge in the years ahead. It must be shared responsibility between private income on the one hand and private sources and public sources on the other—local, state, and federal.

The Commission has not sought to

solve all of the issues of higher education. They have sought, rather, to set goals, to lift our vision, and to present a challenge not alone to education and to educators, but a challenge to the nation at large.

The extent to which such goals are realized will depend not upon the wisdom of the Commission's report, but upon the degree to which we join

hands, government and non-government, voluntary and official, local, state and national, educators and lay public and, in joining hands, move forward courageously, boldly and yet on sound fundamental principles, toward the achievement of the goals and the meeting of the problems that lie immediately ahead.

THE EXPANDING RÔLE OF RESEARCH¹

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To speak on such a broad topic as is the title of this discussion, can only mean a somewhat lengthy editorial. My discourse, therefore, will be a half-hour editorial on a subject the importance of which is such that it has been worth, in my judgment, a major fraction of my professional life. I wish to begin with a quotation.

"The welfare of mankind now depends upon the sciences of man. The sciences of things will, unless civilization collapses, progress, extend man's control over nature and guide technology, agriculture, medicine, and other arts effectively. They will protect man against dangers and disasters except such as he himself causes. He is now his own worst enemy."²

About twenty years ago John Dewey gave a series of lectures considering the question, "Is education a science?" and came to the conclusion that mostly it is not. Only in the application of the mathematical theory of statistics, he thought, have we learned our lesson. Since all the sciences, particularly the social sciences, have direct implications for education, it was his judgment that science would need to play a greatly expanding rôle indeed before education became what it ought to be.

In another series of lectures³ he reached the discouraging conclusion that our teaching of the social sciences

(presumably including education) was largely a rationalization and justification of the status quo.

It would be interesting, if time permitted, to trace the origin of various attitudes toward educational research—and I am here using the word educational in its broadest possible context. I can only note here that the grafting of the scientific method developed in the so-called exact sciences upon the so-called social sciences has not occurred without vigorous dissent on the part of some who should perhaps know better. And for a large proportion of the teachers in our elementary and secondary schools it is not yet a functional concept.

A number of road-blocks may be noted here that hinder the application and implementation of the scientific method with things that matter.

The philosophical heritage out of which western rationalism developed combined with the theology of a powerful, ecclesiastical organization led to a philosophical dualism which has not been altogether fortunate. The dreary wastes of epistemology rather than liberating ethics became our philosophical forebear. Man was thus placed outside of and above nature. This major premise is nicely embalmed, for example, in such phrases as the "*natural sciences*," so that man, and especially his social organization as the object of study—scientific study—has thereby suffered. Thus it came about that such notions as *teleology* and *value judgments* were, and to some extent still are, terms of opprobrium among those who concern themselves with *social science*. And only gradually and painfully is man, including his values, again being given his place in nature.

¹ This is the second address in the series, "The Expanding Rôle of Research in Education," delivered before the Commission on Research and Service at Chicago, March 10, 1948. The third, and last, one by Mr. Moore follows immediately. The first by Mr. David D. Henry was published in the October, 1948, issue of the *QUARTERLY*.

² E. L. Thorndike, *Human Nature and the Social Order*. New York: The Macmillan Company, 1940, page 5.

³ *Reconstruction in Philosophy*. New York: Henry Holt & Co., 1920.

By way of example, I venture the opinion that a large proportion of my contemporaries studied advanced educational psychology using Thorndike's three-volume work as a guide in which the basic formula was $S \rightarrow R$. These $S \rightarrow R$ bonds carried the freight of all basic explanation of learning. It was only later and within the last three decades that the formula has been modified to $S \rightarrow N \rightarrow R$ or $S \rightarrow Q \rightarrow R$.

In justice to Thorndike I must hasten to point out that he has, since his early $S \rightarrow R$ bond formulation, made notable contributions to both the theory and technology of attitudes, interests, needs and wants—he has, in brief, given scientific content and meaning to N and/or O in the later formulation.

"Objectivation of knowledge" had and still has its vigorous protestants. McCall,⁴ for example, quotes Gilder's "The Poet's Protest":

Oh man with your rule and measure,
Your tests and analyses!
You may take your empty pleasure,
You may kill the pine, if you please,
You may talk of the rings and the seasons,
You may hold the sap to the sun,
You may guess at the ways and the reasons,
Till your little day is done.

Another example of this attitude is that of a teacher of French in a private school which I, as an "expert" in tests and measurements in the early twenties had been asked to survey. In presenting the results of a semester of arduous labor on the part of myself and my eager class in Tests and Measurements to the school staff in terms of levels of ability, average scores and the like, I noticed that she looked more and more troubled and she finally burst out "You speak as if zeze children are machines! Zey are not machines—zey are human beings!"

Another example occurs to me in

connection with a University committee, of which I was chairman. This committee was charged with the task of studying the problem of staff evaluation in connection with the need to provide for the tremendous flood of students returning to campuses after the war and consequently for sharply expanding the University staff from the pool of available talent which was presumably inadequate, both qualitatively and quantitatively fully to meet the need. When it was proposed in the committee meetings to select and also to develop certain measuring instruments for staff evaluation, one of my colleagues made a lengthy, eloquent, and vigorous protest which he summed up with the assertion, "It's trifling with the human spirit—that's what it is!"

By implication, at least, I have already indicated the functions of educational research in the foregoing. Research quite simply consists in getting answers to relevant questions. Asking the *right* questions, however, and obtaining answers by scientifically defensible methods is, as I need not point out at length here, crucially important. It is well to reflect that humanity has in general always had answers to every possible question that might be raised. *Scientific* answers, however, are something else again. To those who would like to have documentation of this, I commend the reading of Bergen Evans' *The Natural History of Nonsense*, Dunham's *Man Against Myth*, or Pitkin's *A Brief History of Human Stupidity*—the latter a work of which only the first of forty projected volumes has appeared.

I have seen no better or simpler statement of the questions that should be asked in educational research than that quoted on the fly-leaf of Chapman and Counts' *Principles of Education*:⁵

⁴ Wm. A. McCall, *How to Measure in Education*. New York: The Macmillan Company, 1922, p. 15.

⁵ J. C. Chapman and George Counts, *Principles of Education*. Boston: Houghton Mifflin Company, 1924.

Greeting his pupils, the master asked: "What would you learn of me?" And the reply came:

"How shall we care for our bodies?"

"How shall we rear our children?"

"How shall we play?"

"How shall we live with our fellow-men?"

"For what ends shall we live?"

And the teacher pondered these words, and sorrow was in his heart, for his own learning touched not these things.

How far have we progressed in answering all these questions? A fairly detailed and convenient source for the answer to this question is the *Encyclopedia of Educational Research*, a volume which I commend very highly to the reading of all those who are seriously concerned with the task of education. This is hardly the place to attempt to review or even to point out the contents, running from "Abilities" to "Youth out of school," of this landmark in educational research. One index of the catholicity of its contents is the fact that ninety-five different professional journals are cited in the bibliographical references and it is a safe wager that the revision of the *Encyclopedia* now underway will have a good many more. Another source suffering less from time lag is the *Review of Educational Research* which in three-year cycles carries reviews by the most competent experts available for the various areas subsumed under the general heading of Educational Research. The many excellent yearbooks of professional organizations are too numerous even to mention by name.

No one at all competent to pass judgment, however, would, I believe, assert that the answers to any of these questions are as well known as they ought to be, or that what we already have in the way of answers, scientifically tested, is generally well applied.

"How shall we care for our bodies?"

We are inclined, I believe, to be self-congratulatory about our excellent programs of health and safety education, but the statistics on preventable and remediable physical defects which have come to light in each of the two world wars, are not reassuring and far less than half our children have an annual medical examination.

"How shall we rear our children?"

The fact that one out of every ten in our population will sometime be in a mental hospital and that the hospital beds for psychopathic patients outnumber those for all other purposes, is hardly cause for self-congratulation.

"How shall we work together?" Any day's newspaper is evidence of the tensions which exist in our industrial organizations and strikes have invaded even our own profession. International anarchy momentarily threatens to start another and perhaps final holocaust.

"How shall we play?" Many believe that highly commercialized, mass entertainment—too frequently constituting a flight from reality—leaves something to be desired as a valid answer.

"How shall we live with our fellow-men?" "One world or none?" is now such a grimly imminent problem, and the second of these alternatives can be so near that man may shortly return to the caves from which he emerged not so long ago. A civilization in which governmental budgets for wars past, present and future are from fifty to one hundred times those for education, has hardly found the right answer to this question.

"For what ends shall we live?" How many of our youngsters, products of our educational agencies, have a coherent, well-integrated system of values, *i.e.*, a philosophy of life adequate to their day and generation? The number of hospital beds in psychopathic wards and hospitals are, to those with understanding, a mutely eloquent index

of our short-comings in this respect.

Another very important road-block to giving research in education and other social sciences its rightful place is at the point where the possible consequences for our society are tremendous, *i.e.*, in the United States Congress.

When in July, 1946, the proposed legislation for a National Science Foundation was under debate, the following statement by Senator (former Admiral) Hart appears to have been effective in ruling out the social sciences as having any part in the proposed legislation.

In the first place, no agreement has been reached with reference to what social science really means. It may include philosophy, anthropology, all the racial questions, all kinds of economics, including political economics, literature, perhaps religion, and various kinds of ideologies . . . There is no connection between the social sciences, a very abstract field, and the concrete field which constitutes the other subjects to be dealt with by the proposed science foundation.

In his "President's Winter Report to the Membership," February 16, 1948, Dr. Douglas Scates of the American Educational Research Association, has the following interesting comment.

One avenue of hope [for more adequate support for educational research] is through the National Science Foundation. Legislation authorizing the NSF was passed by Congress last June and vetoed by the president because of dissatisfaction with the administrative structure. We are sure the bill, properly revised, will be passed again in the near future and will become law. While this legislation is designed for the physical and biological sciences, it offers some opportunity for us. Probably "social sciences" will not be specifically mentioned in the bill as so many Congressmen fear social sciences as prejudicial to our social traditions. (Possibly they are correct; is there any science that does not disturb traditions?) But we can at least expect an "open-end" bill which permits "other sciences" as a need for these may be proved.

I, for one, hope that at least this "back door" entrance to adequate sup-

port will be vouchsafed for us. It is indeed later than we think. The task of scientists and educators, it would seem, is that of fostering for the social sciences and for the citizenry as a whole, a matter-of-fact, scientific, rational set of attitudes in the area of educational research. To quote James Harvey Robinson, "Even the more magnificent, scientific discoveries . . . have not penetrated into our general education, and are entirely disregarded in most discussions of social problems.⁶ While we have made some little progress in the twenty-five years since Robinson said this, the situation has not greatly changed for the better.

The social psychology of the situation can perhaps be thrown into relief by the quotation shown at the top of the next page.⁷

Lest this discussion seem too much of an unrelieved Jeremiad, let us now glance briefly at some of the constructive achievements of research applied to education. Notably in the area of basic skills, particularly in reading and arithmetic, there is a very substantial body of scientific knowledge which in a relatively short time has almost revolutionized methods of instruction. In the acquisition of skills and of spelling and learning of vocabulary, the child mind has been rather thoroughly explored. Carping critics of our educational products to the contrary notwithstanding, there is evidence that our children now are better trained in these skills than were their parents and especially their grandparents. Parenthetically, nevertheless, it should be noted that wide-spread existence of remedial instruction would seem to indicate that here also we do not yet have all

⁶ James Harvey Robinson, *The Humanizing of Knowledge*, George H. Doran and Co., 1923, p. 32.

⁷ E. G. Olsen, "Bulkhead Thinking and Human Welfare," *National Education Association Journal*, XXIX (February, 1940), 43.

OUR THINKING IS:

FORWARD-LOOKING

In Areas of Material Culture

Experimental Attitude—We view proposed changes without prejudice and with open minds, subordinating emotional considerations and demanding factual evidence upon which to base tentative working conclusions.

Old Ideas Held Invalid—We are sure that in ten years or less many of our present theories and practices will be out of date, and will need to be discarded as obsolete.

The Past Viewed with Amusement—We laugh at the scientific notions of the last generation.

Change Welcomed as Progress—Having identified technological change with cultural progress, we acclaim each advanced material invention as a new Promise of American Life and Progress.

BACKWARD-LOOKING

In Areas of Social Culture

Stand-Pat Attitude—We view proposed changes with biased outlooks and strongly emotional convictions, subordinating rational considerations to cherished traditions, beliefs, and loyalties.

New Ideas Held Unsound—We are convinced that theories and practices of a century or more ago are patently infallible and should remain essentially unchanged forever.

The Future Viewed with Alarm—We dread the social convictions of the next generation.

Change Opposed as Regression—Having identified social change with cultural decay, we denounce each advanced social invention as another Portent of American Decay and Death.

the answers, else why the great need for remediation?

In general, the whole development of testing and measurements is yielding substantial dividends in that it is enabling more certain control of the learning process, especially, as I have noted, in the area of the skill subjects.

Research in the material aspects of education, the school plant, has of course profited not only from educational research directly applied, but also and especially from our evolving scientific technology and engineering "know how."

In the area of school finance our democratic ideals through the application of scientific method can now be formulated in such terms as "State aid for a given school district equals the number of units of educational need in the district multiplied by the unit cost of the foundation program minus the local contribution at a uniform rate in accordance with ability to pay."⁸

Fifty years ago James Bryce wrote in *The American Commonwealth*, "The

obvious weakness of government by opinion is the difficulty of ascertaining it." The implication that the democratic process could not be better implemented because of this difficulty has no longer any basis of fact. It is now possible by scientific means to obtain very accurately the opinion of the entire populace or any defined segment of it. This is not to say that the science of public opinion measurement has completely arrived. It has, however, already become "big business" and is being rapidly developed, much to the potential advantage of implementing the democratic process. "Consumer research" at the scientific level, whether with respect to automobiles or education has already demonstrated itself and will undoubtedly grow still much further in its importance. In our own work in the *Purdue Opinion Poll for Young People* we have what I am convinced is a very potent tool of both education and research. For educators the country over to be continuously made aware of what is on young people's minds can, and I hope will, have important constructive educational consequences, for these high school youth

⁸ Paul R. Mort and Walter C. Reusser, *Public School Finance*. New York: McGraw-Hill Book Co., 1941, p. 407.

are those who must carry on our society tomorrow. Such polling techniques, moreover, can constitute a form of democratic participation in an institution that is all too often a naked autocracy.

Another very hopeful development is the area of so-called action research of such groups as the Commission on Community Interrelations of the American Jewish Conference and the work of the Bureau of Intercultural Education. Action research, by the use of careful scientific methodology, seeks answers to such questions as "If an individual in a social situation makes an anti-minority remark what is the most effective response in a democratic frame of reference which has as its major premise the dignity of the individual and is concerned with the common welfare?" Those who follow the work of such organizations will be aware of the scientific rigor and enormous ingenuity with which tremendously complex problems are being attacked.

In the area of mental hygiene in general, we are making progress, if all too slowly. The "whole child," we are again learning, comes to school—not just his cognitive mental processes. The research that will be a concomitant of the extensive Veterans Administration program of training clinical psychologists is bound to have a definite impact upon our educational procedures and practices. This large group of professionally trained psychologists will themselves extend the domain of our knowledge of man. Promising new techniques such as projective, sociometric, and attitude measurement techniques in general, will be further developed, tested, and strengthened for their applications to education.

But one of our most serious educational problems is that of overcoming inertia, time-lag and "bulk-head" thinking on the part of all of us. This can be illustrated in the area of the

mental hygiene of learning and teaching at the college level. In her doctoral dissertation, under my direction, Dr. Jean Harvey studied the insight and understanding of college students concerning learning and teaching at the college level.⁹

The measuring instrument consisted of a test composed of items upon which a jury of ten outstanding authorities had agreed as to the right answers on a five-point, agreement-disagreement, arbitrary scale. Following are the percentages of 326 men and 1,056 women students in eight different colleges and universities with the judgments of the experts on best answers for a few illustrative items. On the arbitrary scale, 1 indicated strong disagreement, 5 strong agreement and the others in between. (*See top of next page.*)

The area of counseling is developing rapidly—too rapidly in that demand for such service is so great that charlatans and incompetents too often go beyond scientifically tested knowledge. It is to be hoped that legal controls for the protection of the public will be not too long in coming. The tasks of human society are being analyzed with at least the beginnings of scientific method (*Cf. Dictionary of Occupational Titles*, and the techniques of job analysis and evaluation). On the other hand we have already considerable knowledge of human abilities and the dimensions of human personality as these relate to the work of the world. In this area, fortunately, the road-blocks to progress are not very large or important.

Probably most of us think that greatest scientific progress in education has been that shown in psychological and educational testing. So that we may retain proper humility, let me quote

⁹ Lucy Jean Harvey, "The Mental Hygiene of Higher Learning as the Student Sees It," *Studies in Higher Education*, Volume 53, 1945.

	Experts "best" answer	Percent agreement with experts	
		Men	Women
If a person is willing to work hard, he can succeed in any type of work . .	1	15	11
The content of a college course should be adapted to the average mental ability of the students enrolled	4	13	10
The student who worries excessively should be told just to forget about it, and everything will be all right	1	8	7
The greatest danger of emotional outbursts is that of inducing similar reactions in other people	1	9	12
Students outgrow their early emotional experiences, as they do shoes and other clothing	1	11	17
If an instructor keeps class conditions the same and gives all the students an equal opportunity to respond, he has done all he can be expected to do	1	16	19
Colleges cannot adapt themselves to individual students without shirking their responsibility to society as a whole	1	14	20
As a rule, rapid learners are quick forgetters	1	19	21
The same normal person may be quite honest in one situation and dishonest in another similar situation	5	8	11
It is normal for a girl to be "upset" and "moody" at time of menstruation	2	11	36
Sarcasm is at times a useful and healthful weapon for instructors to use .	1	16	26
The thing most necessary for academic success in college is the ability to concentrate	2	6	7
"Feeling of guilt" is often not in proportion to the wrong that a person has committed	5	11	13
Really adult, well-balanced persons conceal all show of emotion	1	16	20
College students should be proud of being homesick for several months after they enter college away from home	1	11	19
A person should not admit to himself that others are more intelligent than he is	1	15	21
It is unusual for a person to be jealous of a brother or sister	1	15	15
It is desirable to recognize that in certain abilities one is inferior to other people	5	15	13
Any type of overwork (even as much as eighty-four hours per week) in and of itself would never be the cause of a "mental break-down" . .	5	4	5
The attitude one takes toward one's abilities and emotions is much more important for mental health than the abilities and emotions in and of themselves	5	6	12
"Common sense" on the part of the instructor or counselor is adequate for handling most difficulties of college students	1-2	22	22

from *Establishment of the Educational Testing Service*.¹⁰

Those who have been most closely connected with the testing activities over the past few decades recognize that testing is still in its infancy. Large areas such as motivation, personality traits, emotional adjustment, as well as certain intellectual qualities, are still relatively unexplored and call for the most painstaking research and critical analysis. Even in the fields where much research has been done, results have

often been inadequate. No means, for instance, has yet been devised of evaluating the effectiveness of education in the development of those intangible qualities that characterize the effective person. As the processes of measurement are refined the goals and purposes of education become clearer. Thus tests and measurements must occupy a position of central importance in future educational planning.

So far as I know, the book by Remmers and Gage, *Educational Measurement and Evaluation*,¹¹ was the first

¹⁰ Board of Trustees, New York, New York, Dec. 1947, p. 10.

¹¹ Harper & Bros., New York, 1943.

textbook to include a chapter on measurement and evaluation of the teacher as a most important factor in the educational process. The Commission on Teacher Examinations is engaged in a program which should have additional and more valid data to be included in a revision of that chapter in the future. It is quite likely that such a revision will also contain a chapter on the administrator—who is, as all those present here will certainly admit, an important aspect of the educational situation!

In a program sponsored by the Indiana Conference on Higher Education which includes some thirty-two colleges and universities in Indiana, we are at present engaged in a staff evaluation which includes both staff and administrators in its scope. Using as a criterion measure my own knowledge of some of the administrators who have been rated by their subordinates on a scale devised for the program, it is my judgment we have devised a rating scale of a gratifying degree of validity.

If time permitted, it would be possible to take many other side glances at

promising areas of research development related to education, but time does not permit. I wish, too, it were possible to take a longer look at what we need to know and do not know. In that regard also we cannot indulge ourselves here today. Given time we can, I am confident, by means of the application of the scientific method, develop education and with it the general welfare to heights now undreamed of. That we shall be vouchsafed that time is now by no means certain. Our most urgent task, in spite of the chances against us, is that of giving scientific heed to the opening sentence of UNESCO's preamble, "Since wars begin in the minds of men, it is in the minds of men that the foundations of peace must be constructed."

If we can marshal the necessary social intelligence to the task, the schoolmaster of the not too distant future will be better prepared, will not have "sorrow in his heart" and "his learning will touch" the things about which his pupils inquire.

THE PLACE OF RESEARCH IN THE EXPANDING RÔLE OF EDUCATION IN CITY SCHOOL SYSTEMS

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WHAT part will research play in the expanding role of education being so widely considered today? From our experience, and from any reasonable view of the situation, research should become more important to education than ever before. For as schools step outside their familiar boundaries to undertake the direction of learning of all kinds and in widely-varied circumstances, they must be careful not to diminish their *real effectiveness*. This caution must be exercised in three connections:

1. The functions added to the role of the school must be thoroughly analyzed to show their relation to a "total educational program," to justify their inclusion in that program, and to balance possible gains against probable losses. In the process of expansion there is always the likelihood that "growing pains" may become "chronic indigestion."
2. With all of the activities into which the school may expand there is the constant obligation to *get results efficiently*. Despite a tendency to minimize "efficiency techniques," particularly in education—because one must not expect to be constrained by "efficiency" where children and their personality development are involved—it still remains a basic obligation of school authorities to get the greatest possible return from the funds that are all too limited, to say nothing of avoiding a more serious waste, *viz.*, the dissipation of human effort by those who would teach. Waste of resources, financial and human, is never justified.
3. The expanding staff—necessary to the enlarged function of the school—must knit together in more than mere *additive* fashion, if the child is to be well served. What influence, beside a sound educational philosophy, can permeate the school staff to unify and integrate the forces which the school brings to bear upon the child? We believe that a "research attitude" can be of great value.

These three points emphasize a responsibility of school administrators; namely, to see that *adequate study of*

the educational program parallels it at every step in its development. Such a study, if it is really adequate, will constitute a broad program of *educational research*.

We see educational research operating as (1) a steadying force in the expansion of school efforts, (2) making possible more objective evaluations, (3) improving the quality of educational services, and (4) furnishing a common method of approach for all members of the staff.

Are educational research facilities of this type available at present in most of our school systems? Are research workers succeeding in their efforts to create the research attitude in large numbers of teachers? Are educational problems getting the systematic and intensive study necessary for their solution? Is there sufficient boldness in tackling our problems, and faith that research methods can help in solving them?

This raises for every school man, in connection with his own particular responsibilities, the question, What can an energetic program of research accomplish for each of us; and how can we put it into effect?

The approach will depend upon the background situation in each school system. In Kansas City, for instance, Mr. George Melcher, now Emeritus Superintendent of Schools, in 1913 established one of the earliest school research bureaus. This agency has been in continuous operation through the years since then, sometimes with three or four people on its staff, sometimes with only one. Its activities are not significantly different from those of the twelve cities described in 1945 in Liu's

publication—*Educational Research in Major American Cities*. As surveyed by Liu, the work of these agencies, beginning in New York, Boston, and Baltimore was classified as follows:

1. Testing and measurement.
2. Statistics, reports, and publications.
3. Reference, information, and publicity.
4. Research studies and investigations.
5. All other activities.

One of the first studies made by the Kansas City Bureau of Research and Efficiency, as it was then called, was of comparative heating costs in various school buildings. The result seems to have been some changes in firemen and in furnace-firing methods.

Another early project was the construction of a handwriting scale which is still in use throughout the system. Into this project went the best scientific measuring techniques available in the years 1917 and 1918.

Through the years tests in various subject matter fields have been made from time to time occasionally with surprisingly good results, as has been the case in algebra, biology, arithmetic, and American history.

As would be expected, the result of careful research has *not always* been the determining factor in setting educational policy. A two-year junior college, integrated with the high school course and beginning at the end of the junior year, was made available to superior students for a period long enough to prove that it could save a year for this group of young people, with little or no loss in scholastic achievement. Yet, *other considerations* made it appear undesirable to accept the results of the experiment as the foundation of a permanent institution.

Through the years, the Bureau of Research and Efficiency has devoted *most of its efforts* to a continuous program of achievement testing, using the new test instruments as they were developed, and publicizing the results, sometimes to restore a balance in the teaching emphasis where it was found that skills were slipping, sometimes frankly as a means of self-defense against charges that the public schools were no longer getting results.

During the early years of the Kansas City Bureau it was constantly being supplied with new tests by city-survey groups and others, with statistical techniques by mathematicians, and with suggested research procedures by graduate schools of education; and a flow of basic research results was coming from the laboratory schools. Much of the time of staff members was spent in trying to keep up with this rapid development in the field, in interpreting results for teacher's use, and in adapting procedures for local use.

This is a familiar pattern of activity for research agencies in school systems; so familiar, in fact, that it may take some concentrated effort and considerable time to change it materially.

Paul Mort, indeed, in his significant 1947 volume entitled *Principles of School Administration*, speaks of the superintendent as a *consumer* rather than as an essential *producer* of basic research. He suggests that it is the superintendent's place to apply the results of research, adding from his own experience the necessary insights and analyses of current conditions to make sure that the application is sound.

Certainly the superintendent and his staff *will be* the most important consumers of educational research; but there are good reasons for maintaining that today the school administrator in a large city, and perhaps also in smaller

ones, should take especial responsibility for carrying on educational research as *an original producer*.

There is, first, the fact that many of the problems which should be the subject of research are so conditioned by *local factors* that a *local approach* is necessary in order to keep the study adjusted to the circumstances that are vitally affecting the outcomes. As Peters and Traxler point out in the December, 1945, *Review of Educational Research*,

There is emerging a theory of education into which a science of education that attempts to mandate "proven" superiorities in methods of teaching or in values does not fit well. This progressive education type of theory holds that it is the right of each school and of each teacher and her pupils to choose and to plan their values and their methods themselves, not have them mandated by others, even by a "science of education." The only manner in which research can serve these schools is to *offer* the fact that certain other pupils have found certain values or certain methods good and to carry the suggestion that the pupils and teachers try them for themselves. In such a setting the dynamics of the local situation are a more powerful factor than an "average" of success elsewhere and may be expected often to upset predictions based on other pupils.

There is, second, the value attaching to research activities as part of a program of in-service teacher improvement. Participation by teachers in various aspects of a vigorous and practical program of educational research can be expected to stimulate the further development of skilled teachers as much as anything else. It will certainly tend to promote curriculum revision in the most wholesome and effective way, *i.e.*, through the direct changes produced in teachers as a result of their share in the research activity. Again quoting Peters,

The immense number of well-controlled inductive studies which constitute the findings of a science of education have done relatively little to affect classroom practice throughout the country, at least directly; for they have lain on shelves unknown by the rank and file of teachers. The

constructive projects of local application are likely to be put to use at least in the communities for which they were made.

And third, there is the beneficial effect on the whole school staff which would result from a thorough-going development of the "research attitude," the insistence of basing programs on ascertained fact, the willingness to help search for the facts, and the mastery of the skills necessary to make facts really solve problems. Setting the direction of curriculum changes, suggesting expansions of the school program, even insisting on the de-emphasizing of certain parts of the curriculum, would be made surer and more consistent if such a research attitude were generally operating.

Our point may be summarized by stating that in common with a substantial number of research and curriculum specialists, we believe that the greatest opportunity for making appreciable improvement in public education on a large scale is in connection with research projects sponsored by the school system itself.

This, of course, does not mean neglecting research studies coming from laboratory schools, or from any other source. Neither does it mean that the local school system must proceed *alone* in its research activities. One of the most profitable developments in recent years has been the close working relationship established between school systems and specialized research agencies. Through this relationship, educational problems may be more adequately defined and techniques worked out to produce solutions. It has also been discovered that there are many skills to be developed in making this kind of cooperative research successful. The functions of the local system can not be taken over by a specialized research agency without defi-

nite loss to the local system; on the other hand, most school systems could profit from the special research skills of some cooperating group.

Many instances of such a working relationship could be cited. One illustration is the study carried on by C.C. Peters, of the University of Miami, with fifteen public school teachers in several states concerned with the teaching of high school history and social studies to promote the greatest amount of citizenship training. His results have just recently been published. This particular study combined the more conventional procedures of measuring achievement with the previously-mentioned "descriptions of activities" and methods which were by observation successful.

A second illustration is the cooperative relationship of the Horace Mann-Lincoln Institute for School Experimentation, set up five years ago by Teachers College, Columbia University, with a dozen schools and school systems. Kansas City has been one of the school systems associated with the Institute, and has been exploring the possibilities of developing research activities within the school system and staff itself. Nothing in that relationship has weakened the belief that it has great promise for the improvement of education. Of course, not all of the initial projects have been equally successful, and one of the most consistent criticisms to be made of this kind of activity is that *critical evaluation of procedures and outcomes* has not been kept at a desirable level.

We can, however, feel satisfied that worthwhile results have been achieved in a program of work experience for high school students, in determining some of the skills needed in cooperative planning and in developing critical points in a program of general education. From all of these activities there

have been leads which, if followed up, will result in further desirable changes.

From the experience of the thirty-five years since our Bureau of Research was established we have come to some conclusions about the provisions which must be made in order to take full advantage of research as a means to the improvement of education. It is impossible to do more than suggest them here, and of course they will be applicable in different degrees elsewhere.

First of all, there must be an adequate staff, given specific responsibility for carrying on research projects. What constitutes an "adequate staff" will depend on the magnitude of the problems to be studied, and the speed with which the superintendent wishes to proceed.

This specialized staff must not be isolated to work apart from teachers, principals, and directors; nor are their procedures to be looked upon as incomprehensible to their colleagues. A large part of the success of the research office will be due to the sympathetic understanding of its program which can be developed throughout the system.

The idea that the research office is only the critical inspection agency of the superintendent must never be allowed to gain a foothold among the teachers. Too often this has been the unfortunate result of concentrating effort on standardized testing programs.

Again, the local research staff should have many stimulating contacts with outside sources and, more important still, a continuous and active working relationship with some specialized non-local agency in connection with *at least some* of its projects. This is too obvious a point to be argued, but the techniques of such a cooperative arrangement have not been too well developed as yet.

Some means must be found for keeping the whole staff informed of what is

being done, and interested in the findings. Meetings and bulletins help, but probably more can be done through the personal contacts of an increasing number of directors, principals, and teachers who are actively engaged in the study of educational problems.

In addition to the staff participation in research projects which can be carried on during the school year as an integral part of one's professional service it seems that some provision must be made for intensive periods of study at other times when classes are not in session. Planning some phase of a study, reviewing results, writing up descriptions, and making critical judgments require more time than is commonly available during the school year. This statement implies that all of the above-named activities are to be participated in by *teachers* rather than to be the exclusive function of the research staff.

This leads to the final provision which is of paramount importance; namely, a constant high-quality evaluation of the results obtained through research activities. There will be considerable tendency to substitute casual observation and well-intentioned interest for the rigorous research procedures which must be emphasized in carrying on research, whether in local school systems or anywhere else, if it is to be characterized as a genuine research activity. Unless such a careful evaluation of procedures and results is carried on, the outcome of research projects of this or any other kind will fall far short of our reasonable expectations.

There are other things in education besides educational research, but in our opinion we have scarcely begun to realize the full potentiality of this instrument for the improvement of public school education.

PLANNING BETTER PREPARATION OF COLLEGE TEACHERS¹

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Two decades ago Dean Guy Stanton Ford foretold the situation that now confronts graduate education. He had analyzed the problem of what the graduate school expected of the college, but the time would come, he said, when the growth of graduate schools would force them "into the full light," when it would be only fair to have some college leader tell the graduate schools what was expected of them.

Without professing to be that anticipated college leader, I have no doubt that the day of full light has come or that therapy is needed. The problem of the graduate training of college teachers is immediately pertinent because more than half of America's Ph.D.'s go into teaching. It is critical for we are in the midst of a vast expansion of post high-school education and even now face a shortage estimated at ten thousand or more staff members in American colleges and universities.

It is the more urgent because too many of our products lack breadth of training, are specialized at the expense of wide, humane understanding, and are often deficient in integrating their specialization with related and supporting fields and with the larger domains of knowledge and understanding that make up the universe. Moreover, too many of our students who go to the top level of education are largely deficient in professional preparation for their tasks and responsibilities as teachers. Too often they are ill-adjusted socially, poorly conditioned for the highly important business of living effectively in constant contact with other people.

Further, hundreds of critics have voiced the importance of improving the writing and speaking ability of our graduate school products: too frequently, in the words of Dean Ford, "their spoken words fall mouthed and maimed on their side of the desk."

Allowing for exaggeration and granting that large numbers of traditionally trained Ph.D.'s do turn out to be very good college teachers, it remains true that much of the criticism is well founded and that graduate education must grapple with the central issue involved.

The problem permits of no one and easy solution but must be attacked from many angles. One of these is the force and spread of the movement toward general education at the undergraduate level, promising for emerging graduate students an enriched background of education. Another is early selection and counseling coupled with the catalyst of encouragement. A third is found in the broadening of graduate programs and the introduction in many universities of interdepartmental patterns of study leading to graduate degrees—something approaching a revolution in graduate study. Perhaps equally important are the interdepartmental programs now appearing in graduate schools, such as the American and international area studies.

Another approach to the problem of college teaching is the workshops in higher education undertaken at Minnesota, Chicago, Michigan, Northwestern, Stanford, Columbia, and other universities. Continued study of criteria for the appointment and promotion of faculty members is fundamental to the problem. If graduate schools are to modify significantly their practices in

¹ Delivered at the joint meeting of the Commission on Colleges and Universities and the Commission on Research and Service, Chicago, March 11, 1948.

the training of college teachers they need the results of wide inquiry on this point, for the findings should have some bearing upon selection of persons for training to be college teachers.

Efforts at a solution are being made both at the "grass roots level" and at more rarefied heights. The New England Conference on Graduate Education, for example, recommends emphasis on improved training in relation to teaching assistants, while the Commission on Liberal Education of the Association of American Colleges and Universities is engaged in studying the problem of a proper flow of good college teachers. Various universities are offering fellowships for students who seem to have unusual promise for future college teaching careers, and not a few are experimenting with modifications of traditional programs for the preparation of college teachers.

Meanwhile, it is certain that specific plans will be forthcoming to meet directly the challenge of college presidents who cannot find college teachers already trained in the graduate schools. One such plan has already been proposed by Dr. Ruth E. Eckert in an article written out of her conviction that the need for broadly educated college teachers makes this a time "ripe for significant experimentation."

Drafted, not for those taking their basic work in Education and Psychol-

ogy, but for students in other fields, Dr. Eckert's "design" starts with selection, emphasizes counseling aimed at broadening the prospective teacher's outlook upon major fields of human activity, and makes room for apprentice teaching and a core course that might be compared with the summer workshops; case studies by the prospective college teacher of individual students, practice counseling, field work to observe practices in near-by colleges, and first-hand study of the university's health service, speech clinics, and similar enterprises and agencies.

We who have accepted the responsibility of graduate teaching in the universities of America share a great task that has far-reaching implications, not only for our universities and colleges, but also for our civilization. If we are to accomplish it, there is a need of formulating other, perhaps many, plans, and of examining them all critically and objectively. We must arrive at some understanding of the desirable goals, and we can then consider whether or not there are ways and procedures possibly less formal than those as yet proposed for attaining these goals within the compass of the traditional three-year doctoral program and without sacrificing the mastery of "subject matter" that we regard as essential to good scholarship.

BETTER TEACHERS FOR LIBERAL ARTS COLLEGES¹

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I AM doubtful if anyone can write a decent paper about anything unless he feels pretty strongly about it. I don't have strong feelings about how to produce good teachers for our liberal arts college largely, I suppose, because I don't know how to produce such teachers. Therefore, partly to gather steam, I read Volume IV of *The Report of the President's Commission on Higher Education* which is sub-titled "Staffing Higher Education." In some manner the "a" in "Staffing" was marked over in my copy to look like a "u," so that this volume of the report is endeared to me by the title "Stuffing Higher Education," a fairly apt phrase, in my opinion, to describe the Commission's proposals.

I mention this in the hope that I may get credit for having read Volume IV and many others on the subject of training teachers, in order to show that such dull and dead words and phrases as pre-service training, recruitment, placement, inservice training, correlation, integration, outcomes, challenges, levels, objective self-appraisals, etc., are in my reading vocabulary, if not, I somewhat forlornly hope, in my speaking or writing vocabulary.

Since the term "liberal arts college" may mean almost anything, I ought to disclaim any attempt to represent other liberal colleges and what they may want in their faculty members. This paper is simply one man's opinion. Because of that I should make my philosophy of education clear, so that you will be able to allow for admitted biases, and also I should make clear

what I think a liberal arts college is and what it is not. Then I can talk about the education which I believe a liberal arts college teacher should have.

As to educational theory, I confess immediately that I don't share what are apparently the views of the President's Commission on Higher Education. I don't believe that more quantity is what we need in our colleges. I am quite willing to be called a reactionary if that is the term for it, but I don't believe either that if we change the educational environment of the burro we can convert him into a race horse. Nor do I believe that spending additional years in classrooms is going to produce young Aristotles from average students. And while I should agree that many young people not in college ought to be there, I suspect there are an equal number now in college whose education would be advanced just as rapidly if they were somewhere else. In short, I see no reason to extend what is, for a fair proportion of their students, the custodial function of the public schools up into the colleges. And, while I should be for that part of the Commission's recommendation which proposes scholarships and fellowships based on ability, I am opposed on general principles to a bigger levy on the taxpayers in order to enlarge the plants and increase the funds of tax-supported state colleges and universities. Such enlargement and increase would have the effect, in my opinion, of weakening academic freedom in all colleges, and it would also have the effect of forcing standards of scholarship in higher education even lower than they now are.

But I was not asked to discuss educational theory and have only put in this much in order to establish a position.

¹ Delivered at a joint meeting of the Commission on Colleges and Universities and the Commission on Research and Service at Chicago, March 11, 1948.

The next question is: What is this liberal arts college in which our prospective teacher hopes to be useful and from which he hopes to draw a salary sufficient to maintain his self-respect?

Liberalis, of course, means to free the mind; it means the education of free men. *Liberalis Artes* means the higher arts which were originally thought to be arithmetic, geometry, astronomy, music, grammar, logic, and rhetoric. In modern usage the term, "liberal arts," seems to mean the humanities, the social studies, and the sciences except when these studies are pursued vocationally as they would be in technical, applied, or professional education.

But I think the liberal arts college stands for more than this. It seems to me that the liberal arts college either takes or should take a position on the two fundamental issues of American higher education. One of these is the theory of the English or American colonial college as contrasted with the German University Idea. The other is what for lack of better terms we spoke of in the Harvard Report as Jeffersonianism versus Jacksonianism.

With an audience as sophisticated as this, I do not need, of course, to do more than indicate briefly the nature of these clashes. In the American colonial college it was the whole student who was to be educated. The students lived together, played together, ate together, debated together, and studied the same subjects together. While the curriculum was doubtless too narrow, the students did gain an ability to express thought in writing and speech. They learned to be logical both from discussion and debate and from formal study. Since ethics was a common study each year they were concerned to discriminate among values. The teacher in the colonial college was like Plato's midwife. He was not supposed to pour information

into a student. He was supposed to help the student give birth to his ideas.

In contrast, the Germans thought knowledge could be conveniently broken down into departments and specialists could be developed in these departments who were supposed to widen the boundaries of knowledge. The teacher became the Herr Doctor Professor who was possessed of a body of information which he could impart by lecture to the student. The neatness of this package made examinations about its contents easy. The student was to be on his own in every respect. If he attended the lectures and passed the examinations that was enough. Those who followed the German system abolished dormitories and threw common curricular requirements out the window.

The clash of Jeffersonianism versus Jacksonianism is also easy to describe. The Jeffersonians believe in a careful selection of those students to receive higher education, such selection to be based solely on ability. The Jacksonians believe in educating everybody as long as they are willing to stay in school, and in giving them whatever subjects they seem able to understand.

I want to make clear at this point that I think there is something to be said on both sides of each of these two great issues. The curriculum of the colonial colleges was too narrow. The Germans did widen the boundaries of knowledge by segmenting it. Further, I think the high school people are right to teach shop mathematics if the student can't master algebra, contrary to the Jeffersonians. On the other hand, I doubt if the college uses its resources well if it dilutes its offerings too far to satisfy the Jacksonians, even though I have nothing but praise for an effort such as the University of Minnesota has made in its General College. Perhaps the logical answer to the Jack-

sonian-Jeffersonian clash for large institutions is to differentiate students so that the race horses can run together and the percherons can plod together.

But the point I want to make is that the liberal arts college, which is typically small, has to take a position on these two issues. It seems to me that this position should be close to the colonial college and not close to the German University Idea; that the liberal arts college should be close to the Jeffersonians and not close to the Jacksonians. The small liberal arts college cannot have a curriculum which is all things to all men, even if it wants to do so. Further, it must be prepared to provide a total influence on the student. It cannot have teachers who give a lecture and then go away. The large university may possibly be both German and somewhat Jacksonian. But in my opinion the liberal arts college not only surrenders its birthright if it tries to go in the German and Jacksonian directions, but it also puts itself in competition with tax-supported institutions with vast sums of tax money at their disposal. As Al Smith observed about the New Deal, now somewhat represented in education by *The Report of the President's Commission*, "You can't compete with Santa Claus."

Therefore, I feel that a careful selection of students capable of leadership, and an education of these students in the best subject matter we know of, is the only possible antidote the liberal arts colleges can have to the educational W.P.A. the President's Commission foresees by 1960.

Now I come back to the kind of individual who should teach in this college. His interests will not be the same as the teacher of the terminal courses which may be given in the community institutes or junior colleges, nor will his interests be the same as those of the

research specialists in the university graduate school.

He should, first of all, be a liberally-educated person himself. Now liberal education is not, as the President's Commission has so blithely assumed, the same as general education. The liberally-educated person has gone a considerable distance beyond general or basic college education in a manner which I should like to call the amateur (which means for the love of) spirit. He is the boy, let us say, who has had a general education in English literature and has then become vastly interested in Elizabethan drama. He has pursued this interest not because he has looked on Elizabethan drama as a professional subject, knowledge of which will provide a livelihood, but because he finds the Elizabethans interesting, vital people with something to say about life and living, and, even though the subject bakes no bread, he wants to know more about it simply because he is curious and he thinks it would be fun. Or he may be a youngster who has taken the beginning courses in philosophy and has then become vastly interested in the philosophy of Descartes and Spinoza. Now a study of Cartesian philosophy may seem a great waste of time to the counselors of the Veterans Administration who, in their quaint language, "process their clients," but to me this would seem to be liberal education pursued as liberal education is meant to be pursued because the subject is fascinating and the student has a lively curiosity. (Perhaps it is a little off the subject but I would contend that such study not only leads to great satisfactions, but also that it seems not to inhibit the ability to earn money.)

There seems to be so little understanding of this kind of education in *The Report of the President's Commission* that I am forced to conclude that

the members of that Commission have not experienced the distinction which I am trying to make between general and liberal education.

But to get back again to our prospective teacher for the liberal arts college. He would be, then, a liberally-educated cultivated person who has probably taken his undergraduate degree in a liberal arts college. Following that, I am not sure what he would do. He would certainly take graduate work in a subject which intrigued him. Because it is a sort of union card, he might take a Ph.D. degree, but I would hope he would take it at a graduate school which permitted creative work to be used for the dissertation, because it seems to me that the liberal arts teacher should be what he teaches. If he teaches philosophy, for example, he should be in his own unique way a philosopher; if he teaches literature he should have within him powers of literary creation. If he is a scientist he is always puttering by himself or with someone to create some new gadget. He loves his subject in quite an unprofessional way and he has a great interest in all subjects which impinge on his—which means all subjects.

It is hard to generalize about teachers and sometimes not altogether useful. Some will do a thing one way and some another. Some are effective with some students, some with others. Perhaps we can regiment them all into one mold in the vast system of state socialism in higher education which the President's Commission foretells for 1960, but I'm inclined to let them alone until the Commissar of Education actually takes his place in the Cabinet.

This does not mean that I am opposed to a few courses on the subject of teaching for prospective college teachers as a part of their graduate work. The only question I would raise

is who will give the courses. If a kind, urbane person, long experienced in college teaching, can give such a course, it may be of inestimable value. It is useful for prospective college teachers to know that all their students do not have the same aptitudes. They ought to have instruction on grading, on using a variety of teaching methods to accomplish the same ends, on the responsibilities of committee work, and on a variety of other things. I am sure that such instruction should be given either in the graduate schools or that the colleges should do more than they now do through the dean of the faculty or through divisional or departmental chairman to give the new teacher more helpful supervision than he now enjoys.

In the nature of the case, the good teacher has in his make-up some of the "corniness" of the ham actor, some of the grave intensity of the prima donna. I suspect he has to live these rôles somewhat in order to practice them well, but the necessary "mugging" of the classroom may seem a little out of place in the less formal relations with colleagues and with students—and these relations should be many in the liberal arts college. Therefore, I am inclined to think our prospective teacher should develop a personality which is as little abrasive as possible, for close association with lots of people is a part of liberal arts college life. The great man in a university can give his lectures and thereafter avoid all personal relationships. One can be an instructor in a streetcar community institute with four or five hours a day the maximum to be spent with colleagues or students, but the good liberal arts college instructor serves students, colleagues, and the muses all his waking hours.

This paragon we want, then, is an amateur in the best sense. He has had three or four years beyond the bac-

calaureate, probably resulting in a doctorate; he has taken a special course or two to tell him about teaching; he has an unabrasive personality. In addition, I would hope he has traveled. There is little place in the liberal arts college for parochialism. While it is sometimes true that the person who has lived in one spot all his life is as broad of mind as the person who has been all over the world, the advantages to most teachers of having lived for a time somewhere else are so tremendous as to need mention.

In this connection I am inclined to think that colleges should do more than they do now to exchange professors. The concern for a family, the purchase of real estate, and the settling in a community—all good in themselves—keep some good people from being as good as they might be if their experience were a little wider.

And there comes to mind one other quality prospective teachers in a liberal arts college should have. For lack of a better phrase I would call it, "non-objectivity." The college, said William James, should be a place of "intellectual ferment." The teacher in the liberal arts college must be the prime source of this ferment. He should be a person who takes a position on the vital issues of the day, and his right to free expression of that position is a matter about which there should be no debate. For, if he is properly to serve his function, he must be free to examine every question and any issue. While proper classroom technique includes presentation of both sides of the controversial, students have a right to know on which side the instructor finds himself. A nice objectivity, therefore, has no place in the liberal college. As Dante remarked, "The hottest places in Hell are reserved for those who, in a period of moral crisis, maintain their neutrality."

What can a college do to assure itself of getting such faculty members from time to time? Frankly, I don't know. It can keep its eye on its own gifted alumni, but I'm not sure that even gifted alumni in very large numbers help a faculty. There are exceptions, of course, but the faculty member returning to his alma mater is apt to be like other alumni, possessing a kind of nostalgia for a time that never was.

It seems to me that one of the best answers to this problem is for a middle-western liberal arts college to establish close relationships with two or more liberal arts colleges of about the same size and similar purposes in other parts of the country and then keep an eye on graduates of those colleges who may be going into college teaching. At Coe, for example, we might have such a relationship with a college like Swarthmore on the east coast and a college like Pomona on the west coast with the object of watching for graduates of such colleges who may have the ability to do college teaching. In one way and another we might help to plan the graduate training of such students and we might guarantee at least a temporary teaching appointment either during or upon the completion of their graduate work.

But I doubt if such weaknesses as there undoubtedly are in liberal arts college faculties are primarily the result of poor selection or poor training on the job. (After all, the college teacher can't be supervised very much. He has to be a self-starter and of necessity be pretty much on his own.) Our great fault lies in the retention of the mediocre.

In most colleges a teacher retained for three years or more is regarded as a permanent fixture except for immoral conduct, loss of mind or health, or disappearance of the subject he teaches.

We can't do very much about these barnacles of mediocrity who feed on and impede the progress of our educational ship who already have tenure. The great problem is that in their early years with us many faculty members do not seem either good enough to keep or bad enough to fire. Further, the tenure of college administrators is so short that mediocre faculty members often secure tenure for themselves between changes in administration. Instruction Committees of Boards of Trustees are aware of the problem, but unable to do much without administrative recommendation. For these reasons I'm inclined to think that term appointments which automatically expire are a protection for the college, and I'm also inclined to think that tenure should not be based on time, but that it should be based on promotion to a particular rank, say associate professor. In either case the administration and Board must then definitely face the questions of whether the individual is to be kept or not. Tenure should not be gained by default.

Even some of the most careful appointments by the most careful administrators will be mistakes. Sometimes the appointment has to be rushed to fill a last-minute vacancy; sometimes personal interviews are impossible because of distance or other circumstances; in every case, reliable information is hard to get since the credentials which placement bureaus send out are virtual models of perjury. For these reasons batting averages on new appointments are not high, perhaps only around .200. The problem is that we keep our mistakes and simply add them to the mistakes of our predecessors. This may seem to be the only way we can get along peacefully. But appointments for a term and tenure dependent on promotion in academic rank would be a great help in

protecting the college.

Specifically, I am trying to suggest that in the present trial and error method we use, the error is as likely to emerge from the trial as the good choice. If the percentage of good choices is one to five (perhaps it is much higher or much lower) then if we hire about ten new people a year, the final results of five years of hiring of fifty people should be that we would have used every device to retain ten of the people hired, and that we would have been equally active, as the phrase goes, in helping the other forty "secure more suitable opportunities elsewhere."

Finally, I am sure some of my colleagues will think I should say that the graduate schools should give a broader training, that over-specialization is a great devil, and that it is the fault of everybody and his brother, including the curriculum, that we can't find better teachers more easily. But I suspect that good teachers have always been scarce, whether born or made I do not know. At any rate it seems to me that John Erskine made a profound observation when he said that "a good teacher is so rare that the rumor of him spreads with the speed of scandal." That some teachers can make a subject like "The Sex Habits of the American Male" deadly dull and others can make the physics of Aristotle excitingly alive is a phenomenon so hard to explain that the mind bogs down before the fact.

Since the stock in trade of the liberal arts college is the development of lively, curious, logical young men and women capable of expressing thought and with accountability for the great moral and intellectual issues of their time, we obviously need a higher proportion of men and women on our faculties who possess these qualities and who can serve as models for our students. I

suspect there are not more such teachers because the liberal arts colleges themselves have not developed as many thoughtful students as they should have. In part, this may be because liberal arts colleges have somewhat lost faith in their mission; in part it may be because the prevailing temper of our times is in the direction of quantity education directed toward materialistic values; and in part it is probably because minds capable either

of imparting or of receiving liberal education have never been very large in number. Yet it is true, I think, that unless a free society cultivates and encourages such training we shall lose the freedom and individualism we still possess in exchange for the vast, regimented mediocrity sold on a "pie in the sky" basis by a Commission appointed by a President whose acquaintance with education is, to say the least, only nodding.

BETTER EDUCATION OF COLLEGE TEACHERS— THE JUNIOR COLLEGE¹

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THE material in this paper dealing with the desirable qualifications of college teachers is to be presented from the standpoint of the needs of the junior college. It is inevitable that there will be much overlapping with the other presentations since most of the qualifications of the good teacher are of a general character and apply to the needs of all areas of higher education.

When, however, we come to a discussion of the junior college we are immediately faced with the wide variety of institutions loosely grouped under the general head of "junior college." It is entirely possible that some points which are of particular importance for one institution would not be so considered for another. Since most of the junior college members of the North Central Association have certain common elements in their program, the material presented will be limited to the academic program of the colleges which compares with the first two years of the typical four-year collegiate institution.

This function which is common among most junior colleges is of a general nature with a broad two-fold purpose. The junior college has recognized the terminal character of much of its work and many of these institutions have set up terminal programs to meet the needs of those students who will conclude their formal education at the end of the sophomore year. Many other institutions place their major emphasis upon meeting the needs of those students who will continue their

education after completion of the junior college years and are, therefore, providing work for advanced courses at the junior and senior level.

By and large the junior colleges will have younger students predominating on their campuses, which students bring a limited experience and require more counseling. Consequently, whenever teachers are to be selected, these conditions peculiar to the junior college have to be kept in mind, and in some measure at least, determine the kind of a teacher who is ultimately called to service in the college.

I have not sent out a questionnaire to other junior college administrators enlisting their aid, but I have talked with several over the course of the past few weeks and some of the ideas expressed here are, therefore, of a contributed nature. On the other hand, I cannot lay the responsibility for them on the shoulders of other people which would have been possible if a survey had been made.

We should like to have teachers who want to teach, people who have a sense of call, those who would rather teach than do anything else. It has been my observation that too many young people choose the teaching profession not because they feel that it is something they want to do but rather as the result of indecision on their part in the selection of a profession. I have observed many young people come up to the last days of their undergraduate experience and hastily move over into the preparation for teaching as the easiest choice to make.

The fact that so many were lured away from the profession during the war years seems to me to be evidence

¹ Delivered at the joint meeting of the Commission on Colleges and Universities and the Commission on Research and Service, Chicago, March 11, 1948.

of a condition which ought not to exist. It should be difficult to get a teacher out of the classroom and yet large numbers of our better ones were drawn away, many never to return.

Certainly many people go into the profession as a sort of stop-gap between college and marriage or some economic pursuit. We know also from a study of the enrollment figures that in the minds of some people teaching is a depression vocation into which they drift when all other avenues are closed. I think a great good could be done by the graduate schools of the country if they could set up standards of admission which would weed these people out.

The schools also should keep continuously before their students the philosophy that teaching is a dignified profession, one in which there are many compensations which cannot be measured in terms of dollars and cents, and one in which a person has the opportunity to make a great contribution to the society of which he is a part.

When it comes to a discussion of the academic preparation desirable in a college teacher there is some wide difference of opinion. Generally speaking, however, it is the judgment of the writer that the teacher who has received the traditional training of the graduate school has not been adequately trained for the demands of the junior college. The regimen required for the Ph.D. has engendered skills and subject matter fancies which very often cause a person to be ill-equipped to do the job.

While it is important that a person have some specialization, too narrow a specialization results in disintegration of the curriculum. The average teacher for the junior college level does not need to be an expert in research and indeed, if he has acquired great skill in

and fondness for research he has usually done so at the neglect of the other skills needed so much more in the classroom.

His academic training should be broad and liberal with some narrowing of the pyramid without its coming to a point at the top. This highly specialized experience resulting in thick walls which are almost impenetrable separating one department from another has caused the student to emerge from the educational process without a structure but merely with a pile of unrelated bricks. The organization of the curriculum is partly responsible but I believe that the specialized interests of the instructor have contributed their full share to this lack of integration.

For example the instructor in physical science should have a broad foundation in all the physical sciences with some later specialization in one. This later specialization, however, should not result in a tendency to ignore the other fields, but he should be able to call upon all the fields regularly for a better understanding on the part of the students. It would be good for him to have at least the equivalent of an undergraduate minor of fifteen hours in each of the major subdivisions of the physical sciences before he begins specialization and this specialization itself should not be narrow nor limited.

What is true of the physical sciences is also true of all other areas of the social heritage. The economist should be well grounded in the other social sciences as should the sociologist and historian as well. In part, what I am trying to say is that the good teacher for the junior college level should be one who feels at home in more than one or two fields. This is not to say that he is an expert in all of them but it is to suggest that he should know enough about other areas to be able to integrate these into his own fields.

The criticism is brought to the subject matter specialist by saying of him that he has something to teach but doesn't know how to teach and the other criticism is brought to the person who has received his training in the professional areas that he knows how to teach but doesn't have anything to teach. I have known instances in which one or the other of these criticisms would fit. There must be a middle ground which would provide the teacher who knows how to teach and also has something which he can teach. This leads me, therefore, to the discussion of the professional courses which the junior college teacher should have. I am not enamored of professional courses yet I do feel that there is a minimum of them which would be of substantial aid, particularly to the beginning teacher.

As it now stands most teachers at the college level are good or bad teachers according to the models which they follow. If they are good teachers they cannot tell you why and if they are poor they do not know why.

I think some of these professional courses can be offered very profitably at the undergraduate level and would not weaken unduly the cultural experience of the students. I should like for my teachers to have a sound knowledge of psychology that will give them an understanding of the youth with whom they are dealing and will give them some comprehension of the processes of learning. This will make them better teachers and also will enable them to discharge their counselling responsibility in better fashion. Three to six hours properly taught at the undergraduate level should suffice.

I feel that every teacher should have a good strong course in the techniques of teaching. Again, this might be offered at the undergraduate level but I suspect that it would be more desir-

able for the student to acquire experience in this course during his graduate years. I readily admit that such a course cannot produce good teachers immediately, but it does provide one with certain knowledge of techniques which can be used to improve his teaching skill as he goes along.

A third course which I am unable to name, but which I feel would be profitable, would include several different items of professional value. Among others I think I would include some discussion of the place of the junior college in the educational system. This would give a teacher an understanding of what the junior college is trying to do and what its peculiar functions are and how he can become an effective instrument in the pursuit of these functions.

It would include also some discussion of professional ethics. I am amazed each year at the lack of understanding of the ethical principles involved in the teaching profession. I do not feel that this is the result of unethical individuals but rather stems from a lack of knowledge and understanding and somewhere along the line of the educational process these teachers must come to have some comprehension of the ethics involved in their chosen profession. I feel that it would be helpful if the teacher had some understanding of the problem of administration. I think it would enable him to see the school as a whole rather than only his particular part and would result in his coming to have a feeling that he is a part of a team, no less important than any other member of the team and certainly no more important. It would be helpful also if he understood some of the principles of curriculum. He could at least see how his particular teaching field could become a part of an integrated whole. There are other things which will occur to you which might be desir-

able but these seem to represent a minimum and I think the whole program of professional courses could be accomplished in some nine to twelve academic hours.

When we are studying the credentials of a prospective teacher one of the things which we look at is the teacher's interest in extra-curricular activities. For the most part we do not expect these teachers to direct these activities or at least those which are not very closely related to the area in which they are teaching. But the teacher who has acquired some extra-curricular skills more or less unrelated to his teaching field is more likely to be the kind of an individual who will render a service to the campus beyond the classroom.

For some schools it becomes particularly important that the prospective teacher have a skill in some extra-curricular activity which he can direct on the campus. It is not necessary to name these activities because they are common on most campuses and are an important part of the program of the college. The colleges, therefore, should have access to teachers who are sufficiently competent in these activities as to guide and direct them effectively.

In the next place it would be helpful if the graduate school would have greater concern about the personalities of people who are preparing to teach at the college level. It is not a unique experience to interview a candidate for a teaching position who feels that a lack of eccentricities is a mark of mediocrity. He brings these eccentricities into the classroom and wonders why the students apply unusual nicknames to him. Certainly the teaching profession, above most others, requires a well integrated person who leaves the impression at least of being a well adjusted personality. I don't feel that it is particularly commendable for a teacher to be so intent upon his subject matter

that he becomes absent minded to the point that he neglects the common and accepted practices of social relationships and dress. These may be small matters but in my judgment they go a long way toward making it possible for the teacher to do effective work because he does not appear to be something apart from the normal person. I recall, as an extreme case, a woman who was an excellent scholar and I am convinced could have been a fine teacher who failed because she became the laughing stock of the campus as the result of eccentricities of dress and expression of which she was totally unaware. When these things were brought to her attention her reply was that she was interested in the contents of the package and not in the exterior appearance. I believe, however, that in her case the difference between effective teaching and a failure was in the appearance of the package. Understand me, I don't think it necessary to offer courses in grooming or to have every prospective teacher psychoanalyzed but I do feel that the hint can be dropped that teachers are going to be dealing with a group of normal young people who have a great desire to remain normal and ought to have normal examples to imitate.

It is important that a teacher have an interest in youth which leads to sympathetic understanding. This is not a thing which is likely to be derived after one has attained the age of graduate school and if the candidate does not have it he should be counseled to seek employment in an institution whose students are more mature than those usually found on a junior college campus.

I think it goes without saying that we need people of good character who have an adequate philosophy of life. Lacking these things the teacher is a liability rather than an asset. I am very

much interested in the attitudes that prospective teachers have. I spend a great deal of time in personal interview with candidates for teaching positions at the college in an effort to discover these attitudes. I recall a teacher, one of the best young scholars whom I ever knew, who failed in his first teaching appointment because of negative attitudes. He counted himself a liberal and yet his mind was as closed to a new idea as that of the most narrowly reactionary person I can imagine. All truth had been delivered to him and anyone who disagreed with him was illiterate and ignorant. This attitude found its expression in many asides in the classroom which resulted in voluminous correspondence between patrons and administrative officers. I think he was completely unethical because in the interview prior to employment he expressed himself as being in agreement with the fundamental philosophies underlying the school and I believe he did this simply to get the job. Attitudes good and bad are engendered all through the educational process and I believe that the graduate schools should have considerable concern about the attitudes of the people who are going to become candidates for teaching, particularly in the junior college.

I have tried to point out some of the things that are of interest to the junior college administrator as he seeks to employ adequate people for his teaching staff. I have indicated that they should be people who want to teach, people whose training has been sufficiently broad and sufficiently deep to enable them to do more than teach in one small section of the social heritage. Good personality, strong character, and constructive attitudes are important. I have used illustrations which are certainly not general. There is much criticism these days of the Ph.D. because he seems to know too much

about too little and the M.A. because he probably knows too little. But the mere fact that our colleges have been able to render a service which has proved to be important and valuable is evidence of the fact that in spite of handicaps and liabilities these people trained in our graduate schools have been effective teachers. It is encouraging to note that many of the graduate institutions are going through the processes of reevaluation of their functions and purposes and holding their current programs up to critical analysis with the result that the present high quality of most of the teachers will be greatly improved in the teachers of the next generation.

I believe that the junior college has a responsibility to put the most attractive personalities, the finest characters, and the best prepared persons that it is possible to produce in the classroom. These people become the models for many of the students and it is imperative that we give good models to follow.

The employing junior college has a responsibility to orient its teachers and to give them in-service training and guidance, but we are dependent upon the graduate schools to supply us with the raw material which ought not be too raw when we get it.

YOU WILL NEED THESE QUALIFICATIONS AS A JUNIOR COLLEGE TEACHER

Personal Qualities

1. Physical health and energy.
2. Emotional stability.
3. Leadership ability; ability to inspire.
4. Ability to project ideas dramatically and persuasively.
5. Strong scholarship.
6. Social adaptability.
7. Interest in young people.
8. Interest in world affairs.
9. A philosophy of life and a character which include strong spiritual values.

Competencies

1. Broad general education.

2. Sufficient depth of training to insure strong scholarship.

For academic departments, at least a master's degree in the teaching field is recommended. Sufficient training to teach in at least two related fields, or in a broad field (e.g., social sciences), at both high school and junior college levels.

For terminal industrial, semi-professional, or other vocational subjects, the amount of academic training required may vary, but work experience is important.

3. Professional training relating specifically to junior college teaching.

Professional training designed to acquaint the

person with the philosophy (or philosophies) and background of the junior college, and with the work expected of faculty members in regard to committee assignments and similar faculty services.

This professional training should include an internship or cadet teaching in a junior college.

4. Both the specialized training in the teaching field and the professional training including cadet teaching should be taken simultaneously during the period of graduate study of approximately two years.

5. Knowledge of counseling procedures, including interpretation of test results.

6. Ability to lead in some extra-curricular activity.

THE DENVER STUDY¹

MAURICE AHRENS

The Public Schools, Denver, Colorado

BEFORE I give a report on the science experimentation which we have been carrying on in Denver, I should like to describe the background and the setting for this experimentation.

Since 1933 the Denver Public Schools have been participating in one or more national studies. In 1933 we joined the Eighth Year Study, or the thirty school study, of the Progressive Education Association. Just before that study was concluded, we participated in the study of the Commission on Teacher Education, sponsored by the American Council on Education, which was a study of in-service education. At the present time we are engaged in two others: one, in cooperation with the Horace Mann-Lincoln Institute for School Experimentation, is sponsored by the Teachers College, Columbia University, and the other, on Inter-group Education for Cooperating Schools, is sponsored by the American Council on Education.

Since the experimentation initiated through the studies has been confined in most cases to a small number of our schools, it has been our policy to encourage and provide leadership for continuous experimentation through our Department of Instruction. It is our belief that, if we are to meet the needs of boys and girls in our schools, it is necessary to carry on a program of continuous study and experimentation.

I am sure you recognize that participation in studies and experimental programs requires freedom from at least some established rules and regulations. A new project which is hampered by insurmountable controls

ceases to be experimental. If experimentation is to be effective, it is desirable to obtain permission to break away from traditional concepts.

In 1932 the Commission on the Relation of School and College of the Progressive Education Association obtained certain concessions from many accredited colleges and universities. The agreement not only permitted the thirty cooperating schools to have freedom to experiment but provided that graduates of the thirty cooperating high schools be accepted in colleges even though these thirty schools had no specific pattern of course requirements. At approximately the same time it was necessary to obtain permission to experiment from the North Central Association. This meant, of course, a waiver of certain rules and regulations, with the understanding that there would be justification for the experimentation that was carried on.

The experimentation and the values accruing would have been impossible without the permission of this Association. I want to state at this point that we appreciate not only the opportunities which have been provided by the North Central Association but also the assistance and encouragement that we obtained through the State Committee in Colorado. Mr. Cross and Mr. Romine have given us a great deal of encouragement and assistance.

I should like to report very briefly on some of the values which have emerged from this long period of experimentation. I want to mention them rather briefly because it seems to me that they serve as a background for the science experimentation which we have carried on.

1. In the first place, there has been a

¹ Delivered at the second session of the Commission on Secondary Schools, March 10, 1948, at Chicago.

tremendous increase in interest on the part of teachers in the total growth and development of adolescents. We find our teachers now giving as much recognition and attention to physical, emotional, and social growth as to intellectual growth. We find teachers becoming increasingly more interested, not only in understanding how adolescents grow and develop, but also in the implications of that growth and development for the curriculum.

2. The second value is that guidance has become an integral part of the school program rather than an incidental part. I should like to mention two practices which we carry on that illustrate this particular value. We have developed in Denver a general education, or what many call a core, program. We started the core program on the basis of correlating English and social science. Upon examining the purpose of the core, that of contributing to the total growth of children or the integration of personality, we soon found that correlation of subjects does not integrate personalities. For this reason we began very early in the experiment to base our general education or core program on problems, concerns, and interests of boys and girls—problems which arise in the personal, social, civic, and economic living of our youth.

3. The third guidance value is that we have learned that a teacher must know his pupils intimately if he is to assist them in the problems they must face in everyday life. Consequently, in both our junior and senior high schools, we have teachers, called counselors, who assume major responsibility for the guidance of a reasonably small group of pupils for a three year period. They have them in a core or general education class from one to three periods a day. In this class, consideration is given to the common problems of the group.

Each counseling teacher is provided a period within the school day for individual conferences with his counselees so that special individual problems of pupils may be given consideration.

4. The fourth value which we think has accrued from the experimentation is the functionalization of many of our subject matter courses. Many of our courses have been reorganized so that they are based upon the life experiences of adolescents.

5. In the fifth place, as a result of the study we have come to consider that the ideal unit for developing an instructional program is the individual school. In other words, we are decentralizing instruction. In developing a life experience program it is important to recognize that needs, concerns, and interests are not the same for pupils in every school community in the city. Therefore, we are placing more and more responsibility upon a principal and his faculty in a particular school for developing the instructional program to fit the needs and concerns of pupils in that school.

6. A sixth value is recognition that new courses are needed to meet the special needs and interests of pupils. As pupils have participated in common learnings or common problems courses, we have found emerging special interests for which no provisions were made in our high school curriculum. As a result new courses have developed over a period of years.

7. One of the most significant developments resulting from the experimentation is found in our in-service education program. While we have always had an in-service program, the meetings were usually held before or after school. We have come to recognize that in-service education is of such major importance that it is economical to provide time within the school day for many of the activities. For this

reason our principals have developed techniques of scheduling which make it possible for teachers of similar interests to be released for planning at the same period during the school day. Thus, general education or core teachers at each half-grade are released for planning during the same period. It is our feeling that in-service growth which results from these planning meetings is more significant than that coming through any other activity. Many other in-service education procedures have been developed through experimentation. Our summer workshop program which is in its eleventh year, our workshop which is carried on during the school year every Monday afternoon and evening, our induction program for new teachers, and our program for probationary teachers are other examples of in-service education projects developed as a result of experimentation.

8. Another value is the development of new evaluation techniques and procedures. In this experimental program that we have been working on, the purposes of instruction have been changing gradually. It is changing from mere memorization of fact and acquisition of academic skills to development of democratic ways of behaving. In other words, teachers are becoming concerned with the development of attitudes, habits, skills, appreciations, ideals, interests, and ways of thinking. In order that status and growth toward these objectives can be appraised, it has been necessary to unearth and develop new techniques and procedures of evaluation.

9. The final objective which we feel has been achieved is the emergence of a new philosophy of administration. We are finding more and more that principals are developing a much greater faith in teachers. Principals are also taking on a new role as instructional

leaders. They are delegating many details that kept them from assuming leadership in instruction. They are taking a very active part, both in having direct relationship with teachers, pupils, and parents and also in developing effective instructional leadership among their faculties.

As a result of the faith which principals have in their teachers, there has emerged not only freedom for experimentation but also encouragement and leadership. I think that you recognize the importance of this philosophy in the development and improvement of the instructional program in secondary schools. In any kind of an experimental program of this sort, many changes are necessary in existing practices and procedures. If teachers do not feel free to experiment, changes are not likely to occur.

Among the early changes which we made within this period of experimentation was that of a shortened time allotment for science laboratory work in our senior high schools. Prior to 1933 we had a double period twice a week for laboratory work. In 1933 the number of periods per week for science courses was cut from seven to five. There were at least four reasons why it was decided to try science teaching on the basis of five rather than seven periods per week.

1. It must be recognized that for a number of years new courses and new experiences have been added to the secondary school curriculum, and they are still being added. This cannot go on indefinitely within the limits of the school day. With this in mind we began to examine the curriculum to see how the course offering and course time could be reduced to make room for other important additions to the instructional program. After careful study it was decided that, among other changes, it would be possible to try a reduction in the amount of time pro-

vided for science instruction.

2. Since we had no evidence to the contrary, we began with the hypothesis that if instruction in science were re-organized, it would be possible to do as good a job in five periods a week as could be done in seven. The evidence which has been assembled seems to prove that hypothesis.

3. The reduction in the number of periods for science permits pupils more freedom to elect special interest courses. A science course having a double period two days a week takes up two periods of the student's time, while other courses demand only one. Thus, pupils taking science courses have less freedom for choice of electives. It often happens that a course in which a pupil is particularly interested is scheduled during the period when he has science laboratory twice a week.

4. There has been a feeling on the part of many science teachers that during two days a week the two periods provided for laboratory work must be held inviolate. This, of course, results in an inflexible type of instruction, since it frequently happens that experiments are performed at a time when they have no relation to material covered in regular class sessions. In addition it is generally recognized that four periods per week are not needed to carry on experiments which are correlated directly with learning experiences. Most teachers will say that they frequently use laboratory periods for regular classwork. This practice poses the question of why science courses should have more time for regular work than do other courses.

At this point the question of what was done to compensate for loss of the two periods presents itself. I should like to indicate a few changes that were made. First, parts of many experiments which had very little value were eliminated. I am sure some of you know

that in chemistry, physics, and biology there are many experiments of which parts may be cut without affecting their value. Thus, our teachers undertook the job of eliminating many parts which had little significance in teaching certain concepts and skills. Consequently, our teachers do not find many experiments which cannot be performed in one period.

In the second place, whenever a few experiments have been found too long and involved to perform in one period, teachers have been carrying on a demonstration technique in which teacher and pupils together, or a group of pupils, demonstrate the experiment before the class. When planned ahead of time, it can be done easily within a single period.

The third change that was made to compensate for time cut was to have pupils write up the experiment outside of class or laboratory time. Prior to this it was common practice to have experiments written up during a laboratory period. When you consider how long it takes pupils to write up experiments, it is evident that much class time can be saved through abandoning this practice.

The fourth step was to analyze and evaluate the purposes of experiments that pupils were being asked to perform. Many experiments which, through tradition, are in the list of required experiments have little or no value in developing science concepts and skills. Through careful study it has been found possible to eliminate some experiments *in toto*.

The fifth procedure used to compensate for loss of time was that of improving techniques of planning. When the one hundred minutes or more which has been provided for laboratory work is cut in half, it becomes necessary to plan better in order that the important values may be re

tained. Since our teachers recognize this fact they have learned to plan and organize their work carefully and thoughtfully so that experimentation in the laboratory can start immediately and proceed without loss of time.

It is not a simple matter to appraise the results of the experiment. Since there are no pencil and paper tests relating to laboratory work, our evaluation has been centered upon subject matter achievement. Hence our judgment is based upon results of standardized tests that show whether pupils in our science classes are achieving median percentiles which compare favorably with those of pupils in other parts of the country. The tests used are Co-operative Chemistry, Physics, and Biology Tests. The most recent results on these tests expressed in median percentiles, are shown in Table I. Although these results are not conclusive, it is evident that our pupils are not retarded in subject matter achievement. It is our belief that a single laboratory period serves as well as, if not better than, a double period.

I think we all recognize the im-

TABLE I
RESULTS OF THE COOPERATIVE BIOLOGY,
CHEMISTRY, AND PHYSICS TESTS
Denver Public Schools

School	Biology		Chemistry		Physics	
	Cases	Median Per-centile	Cases	Median Per-centile	Cases	Median Per-centile
A	50	64.3	—	—	—	—
B	172	68.5	37	79.75	49	48.0
C	180	48.8	74	84.4	54	52.0
D	151	55.75	23	58.0	—	—

portance of and need for experimentation. It is evident that experimentation is essential if we are to move from a subject centered curriculum to one based upon the needs, problems, and concerns of pupils. In Denver we are highly appreciative of the attitude of the North Central Association toward experimentation and we are grateful for the opportunities which have been given to us. Our hope is that the interest, friendliness, and helpfulness which have characterized our relationship in the past will continue in the future.

CHEMISTRY COURSES FOR STUDENT NURSES OFFERED IN COLLEGES OF THE NORTH CENTRAL STATES¹

SISTER MARY GRACE WARING
Marymount College, Salina, Kansas

PRESENT trends in the education of nurses in hospital training schools show that a preclinical period of instruction is being required by more and more hospitals. During this period the students study basic sciences as a preparation for their education and training that follows in the hospitals.

The writer made a previous investigation of the chemistry courses for student nurses offered in Kansas colleges.^{2,3} Sufficient interest was manifested in the questionnaire replies to extend the area of research beyond the confines of Kansas. The present discussion summarizes the findings of a second questionnaire which was sent to the heads of chemistry departments of over three hundred institutions in the North Central states, including both senior and junior colleges. Sixty-three percent of these persons answered and returned the questionnaires. In passing, the author of this paper wishes to express her thanks to co-workers who made this compilation possible by answering the questionnaires.

The number of special chemistry courses for nurses offered by those colleges responding to the questionnaire is shown in Table I. A special chemistry course for nurses as, designated in this study, referred to a college chemistry course offered for student nurses, based

on a text book written to meet the requirements of courses in chemistry for nurses as recommended by the National League of Nursing Education, and not requiring any prerequisite in chemistry. All of the institutions offering this course had one or more hospital affiliations. No investigation was made as to the reasons why other institutions were not offering the course. Location of the respective colleges in relation to hospital training schools may have been the main determining factor, as this course is frequently offered at the request of the training school.

Six colleges not offering the course as here outlined provided a freshman college course for nurses but used a general college chemistry text. Sixty-four colleges which did not offer a course especially for nurses had pre-nurses enrolled in their regular freshman chemistry courses.

Six colleges granting from six to ten semester hours of credit on their special chemistry courses for nurses, which courses extend over a whole year, or two semesters' time, considered their courses to be satisfactory prerequisites for the second semester of general chemistry. The institutions granting four or less semester hours of credit on one semester course almost unanimously agreed that the courses were too specialized to meet the demands as prerequisites for the second half of a first year college chemistry course.

There was very little uniformity in regard to the amount of credit given and the time devoted to class and laboratory. This is indicated in Table II.

¹ Presented before the Division of Chemical Education at the 113th meeting of the American Chemical Society in Chicago, April 19, 1948, and published here because of its pertinence to the work of colleges in North Central territory.

² Presented before the chemistry section of the Seventy-eighth Annual Meeting of the Kansas Academy of Science, at Emporia, Kansas, April 12, 1946.

³ Sister Mary Grace Waring, *The Kansas Nurse*, 20, 11-12 (1946).

TABLE I

NUMBER OF SPECIAL CHEMISTRY COURSES FOR NURSES OFFERED BY RESPONDENT COLLEGES

State	Number Sent	Not Responding	Number Answering	No Special Course for Nurses	Special Chemistry Course
Arizona	3	1	2	2	0
Arkansas	11	2	9	9	0
Colorado	7	2	5	4	1
Illinois	51	19	32	26	6
Indiana	20	7	13	8	5
Iowa	21	4	17	8	9
Kansas	33	10	23	14	9
Michigan	27	13	14	8	6
Minnesota	21	9	12	9	3
Missouri	33	10	23	20	3
Montana	1	0	1	1	0
Nebraska	12	6	6	4	2
New Mexico	4	2	2	2	0
North Dakota	3	2	1	1	0
Ohio	41	16	25	21	4
Oklahoma	5	2	3	3	0
South Dakota	9	3	6	6	0
West Virginia	8	5	3	3	0
Wyoming	1	0	1	1	0
Wisconsin	16	7	9	9	0
Total	327	120	207	159	48

Twenty-two of the instructors pointed out that the motive for teaching special chemistry courses for nurses was to give the students a basis for pursuing other nursing subjects; three instructors made the mastery of subject matter the primary aim, while sixteen combined these two purposes. Other reasons mentioned were as follows: to give the student general knowledge, to emphasize its cultural value, and to enable the nurse to pass the state board examinations.

Text-books chosen varied somewhat according to the time devoted to the courses. In colleges where the time was extended over two semesters and where six to ten semester hours' credit was given for the year, the two texts used were *Chemistry in Health and Disease* by Biddle, and *Fundamentals of Chemistry* by Bogart. For briefer courses these and other texts, tabulated in

Table III, were used.

The method of instruction consisted largely of class periods devoted to lecture. Some instructors combined lecture with recitation, discussion, or demonstration. Individual experiment seemed most popular for laboratory work. Methods used by chemistry instructors in teaching the nurses' course are shown in Table IV.

Forty of the colleges offering the course for nurses stated the number of students taught during the year 1946-47 was as follows: number of students first semester, 1,225; number of students second semester, 186; total for the year, 1,311. The number of students taught at the individual colleges varied greatly according to location and number of hospitals affiliated.

Twenty-nine of the colleges offering a special chemistry course for nurses did so as a part of a preclinical period

TABLE II
CLOCK-HOUR REQUIREMENTS AND CREDIT
GIVEN IN SPECIAL CHEMISTRY
COURSES FOR NURSES

Colleges	Clock Hrs. per Week		Credit (Semester Hours)
	Class	Laboratory	
I	2	2	3
3	3	2	4
3	2	3	3
I	4	3	5
I	2	4	4
I	3	I	4
I	2	5	4
I	3	4	4
I	3	3	4
I	I	2	3
I	4	I	2½
I	2	2	2
I	3	0	2
I	2	1½	2
I	2	2	0
I	2½	1½	0
I	3	6	5
			(two sem.— ten sem. hrs.)
I	3	2	4
			(Two sem.— 8 sem. hrs.)
I	2	3	3
			(Two sem.— 6 sem. hrs.)
I	I	2	2
			(Two sem.— 4 sem. hrs.)
Quarter Plan			(Quarter Hours)
I	3	3	I2
I	3	4	10
I	3-3-3	2-2-4	2½-2½-2½
I	3	2	4
	(I quarter)	(I quarter)	
I	2	4	4
I	2	4	Blanket credit for nurses' sub- jects
	(I quarter)	(I quarter)	
I	4	3	Not stated
	(12 weeks)	(12 weeks)	
I	5	5	2
	(Time not stated)	(Time not stated)	

for entrance into nurses' training schools of affiliated hospitals. Twenty-one of these colleges also had curricula leading to a degree, which usually included a preclinical period of two years; and most of them required a year of general inorganic chemistry,

and also a semester of organic, as well as a semester of biochemistry. Seven colleges offered a two-year preclinical period but did not have degree programs. A detailed study of chemistry courses required by the colleges of this area for a degree of Bachelor of Science in Nursing will be undertaken in the near future.

If a graduate nurse entered college as a freshman, twenty-four of the colleges teaching a special chemistry course for nurses would refuse to grant credit for a nurses' chemistry course taught by a hospital staff member or other non-collegiate instructor in a hospital as part of the nurses' training course; however, six colleges would grant credit. Other statements in regard to this subject were as follows:

Credit not granted toward a chemistry major

No credit toward an A.B. degree

Credit if one can pass an entrance examination

No credit as a substitute for college chemistry

Credit depends upon the ability of the individual

Yes, credit granted, but not to satisfy specific requirements

No credit toward a science major

Credit given only to students from affiliated hospitals

Sixty hours of blanket credit is granted toward a degree

No credit is given specifically; a student is given forty-eight hours of credit on nurses' training

Yes, credit is granted, but it is a mistake

Perhaps we might grant two hours, depending upon ability of individual

This is decided by the advanced standing committee

Yes, credit is granted, but the student must take general chemistry

The College accepts forty-eight hours for nurses training toward a professional degree

One year of credit is granted toward a degree Yes, but the student needs extra help

We grant thirty hours for nurses' training, plus fifteen hours for work at the university during the preclinical period

Thirty hours of blanket credit is granted at the discretion of the dean

We allow thirty-two hours of blanket credit

The student who has finished nurses' training registers as a sophomore.

TABLE III
TEXTBOOKS USED IN SPECIAL CHEMISTRY COURSES FOR NURSES

Colleges	Text-book	Author
13	<i>Fundamentals of Chemistry</i>	Bogart
7	<i>Chemistry for Nurses with Laboratory Manual</i>	Biddle
5	<i>Chemistry in Health and Disease</i>	Biddle
6	<i>Fundamentals of Inorganic, Organic and Biological Chemistry</i>	Routh
6	<i>Principles of Chemistry</i>	Roe
3	<i>Essentials of Chemistry</i>	Luros and Oram
2	<i>Introduction to Physiological and Pathological Chemistry</i>	Arnow
1	<i>Fundamentals of Chemistry and Applications</i>	Francis and Morse

In two states the majority of the hospital training schools for nurses required high school chemistry for admission; one state board of nursing required that applicants must be in the upper third of the high school senior class; one in the upper one-half; another in the upper two-thirds of the senior class.

In conclusion, it appeared that there was light uniformity in a specialized chemistry course for nurses as taught in the colleges, either as to time devoted to the course or amount of credit granted. Emphasis seemed to be on the practical side of chemistry rather than on the subject matter of chemistry. Lecture, recitation, and individual experiment prevailed. Trends pointed toward a longer preclinical period, usually two-year, the curriculum of which included general college chemistry, organic chemistry, and biochemistry,

TABLE IV
METHODS USED IN SPECIAL CHEMISTRY COURSES

Colleges	Methods of Instruction Used
40	Lecture
33	Recitation
27	Discussion
15	Lecture-Demonstration
36	Individual Experiment
6	Group Experiment
3	Experiment in Pairs

before the student started actual nurses training. The degrees of capability shown by students at colleges in mastering preclinical studies should assist the hospital training schools in advising applicants whether to prepare to be practical nurses or to enter the training program for professional nurses.

STATISTICAL INFORMATION CONCERNING SECONDARY SCHOOLS ACCREDITED BY THE ASSOCIATION FOR

1947-1948¹

EDGAR G. JOHNSTON

*Secretary of the Commission on Secondary Schools,
Wayne University, Detroit, Michigan*

THE annual summaries of statistical data compiled from the reports submitted by member schools provide a valuable source of data reflecting trends in the area served by the North Central Association. The complete report presents data, respectively, for schools with an enrollment of less than 200, those enrolling from 200 to 499, those with an enrollment from 500 to 999, and schools with an enrollment of 1,000 or over, as well as for the total North Central membership. The present abbreviated summary (Table I) includes enrollment data for all schools and significant items from other sections of the report.

The membership of the Association has increased slightly over that of last year, with a total of 3,039 schools. This includes sixteen "American Dependents' Schools" in occupied countries, seven in Germany, one in Austria, seven in Japan, and one in the Philippine Islands. Inclusion of these schools in the Association breaks the precedent

of limitation of membership to the twenty states in the middle section of the United States. The "Dependents' Schools" serve children of army and civilian personnel in the occupied countries and are under the direction of the United States Army. These schools were admitted to the Association in recognition of the fact that both teaching staff and pupil clientele come largely from North Central Association territory and graduates will in most cases plan to attend colleges in this area.²

The figures for total enrollment show a drop below that reported last year. In fact, the figure 1,466,205 (exclusive of the Dependents' Schools) is lower than that reported for any one of the last four years. The average number of pupils per school is also slightly under that reported in 1947. This fact seems difficult to explain in view of the increasing trend toward consolidation of small schools. The slight drop in total enrollment would not seem to provide a complete explanation.

The number of pupils graduated (graduates of 1947) shows an increase of more than twenty thousand over the previous year. Apparently, those pupils who do remain in school have a greater tendency to complete the high school course, and the number of boys graduated in 1947 almost equals the number of girls graduating.

There is apparently little change in length of term, the median falling in

¹ Because of increased printing costs, the Editorial Board of the North Central Association *Quarterly* decided that it would be inadvisable to print the complete summaries of the annual reports from secondary schools as has been customary in recent years. Information on certain salient features of the summary, together with a table of supporting data, is presented in this article. The complete report, covering the distribution of data for the 20 states for all schools and for schools classified according to size, has been mimeographed and is available to interested parties on request to the Secretary of the Commission on Secondary Schools. Complete summaries for earlier years will be found in the North Central Association *QUARTERLY*, as follows: Vol. XXII, No. 3, Jan., 1948; Vol. XXI, No. 3, Jan., 1947; Vol. XX, No. 2, Oct., 1945; Vol. XIX, No. 4, Apr., 1945.

² At the time of the preparation of this report, only data for the enrollment, number of teachers, and the number of pupils were available.

the bracket "176 to 177 days." The number of schools reporting "less than 170 days" is 160, three times the figure for last year. More than three-fourths of these, however, are reported from the four states of Colorado, Minnesota, Ohio, and West Virginia. It is probable that the explanation is to be found in unusual weather conditions obtaining in these states with resulting "snow vacations" or other interruptions of the school term. The length of period reported shows no appreciable change. There is, apparently, no shift either toward or away from the "long class period."

As was to be expected, the salary range shows a definite upward trend. The median salary for superintendents and for principals falls in the range \$4,000 to \$4,499. In each case the median last year fell between \$3,500 and \$3,999. More than two-thirds of the men teachers and two-fifths of the women teachers in the public schools receive salaries of \$3,000 or more. Unfortunately, the statistical summary form supplied to state chairmen made this figure the top bracket and distribution above \$3,000 is not revealed. In any case, teachers' salaries show a distinct increase in the past year. (Whether this represents an increase in "real wages" is another question!)

There are seven thousand more full time teachers reported for 1947-48 than for the previous year, and the pupil-teacher ratio shows a slight decrease. Fourteen hundred and forty-four schools have a pupil-teacher ratio

of less than twenty. Only 1,090 have a ratio of twenty-two or more. Only twenty one schools in the Association are reported with a pupil-teacher ratio in excess of thirty.

The number of new staff members for the year 1947-48 was 11,254, a drop of two thousand from the preceding year. The proportion of new teachers holding higher degrees remains at about the same figure as in previous years. There is a slight decrease in the number of new teachers without a bachelor's degree—510 as against 595 last year—but the number not meeting the North Central requirement of fifteen semester hours in professional education is 685, the highest figure since 1944. The problem of securing fully-qualified personnel is evidently still a very real one.

There is a slight increase in the number of full time and part time librarians reported in 1947-48 and, of these, 1,078 have twenty-four or more semester hours of library science as compared to 1,001 the preceding year and 994 for 1945-46. (Data concerning library personnel were not collected prior to that year.) There is also a very slight increase in the number who qualify as "teacher-librarians" with sixteen to twenty-three semester hours in library science. The fact that 1,166 of the librarians are reported as having *no* work in library science, however, indicates something of the problem facing schools if the new regulation on library personnel is to be met fully by 1955-56.

TABLE I
SUMMARY OF ANNUAL REPORTS OF SECONDARY SCHOOLS, 1947-1948

States	Total Number Schools		Enrollment Data by Grades											
	Public	Private	7		8		9		10		Total		Boys	Girls
			Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls		
1. Arizona	47	0	106	89	93	97	2,994	3,210	3,042	3,379	6,204	6,421	3,042	3,379
2. Arkansas	73	4	1,517	1,531	1,355	1,496	2,201	2,458	3,324	3,751	4,719	7,075	3,324	3,751
3. Colorado	91	11	525	548	516	549	3,628	3,624	5,047	5,721	7,232	11,668	5,047	5,721
4. Illinois	367	90	88	86	120	119	36,277	36,672	36,625	38,466	72,949	75,091	36,625	38,466
5. Indiana	154	8	1,379	1,329	1,725	1,747	11,574	11,294	12,620	12,960	22,868	25,580	12,620	12,960
6. Iowa	157	15	571	614	629	580	5,056	5,304	8,291	8,918	10,360	17,209	8,291	8,918
7. Kansas	200	14	905	856	886	920	5,176	5,398	8,375	8,349	10,574	16,774	8,375	8,349
8. Michigan	217	26	2,341	2,233	2,865	2,860	13,722	13,999	23,063	26,106	27,721	50,069	23,063	26,106
9. Minnesota	95	22	48	57	60	97	2,245	2,142	8,876	9,671	4,387	18,547	8,876	9,671
10. Missouri	134	45	663	596	1,832	1,805	10,749	11,155	10,452	10,066	21,904	21,118	10,452	10,066
11. Montana	35	2	0	0	0	0	1,638	1,664	1,653	1,779	3,332	3,432	1,653	1,779
12. Nebraska	141	10	261	244	258	274	4,743	4,835	5,676	5,871	9,578	11,547	5,676	5,871
13. New Mexico	40	1	372	342	399	357	1,312	1,311	2,179	2,326	2,623	4,505	2,179	2,326
14. North Dakota	58	4	81	77	88	84	1,252	1,332	1,591	1,878	3,469	4,505	1,591	1,878
15. Ohio	384	34	6,843	6,558	7,030	6,733	20,728	21,731	20,524	20,569	42,459	59,093	20,524	20,569
16. Oklahoma	119	3	0	0	0	0	2,646	2,661	7,076	7,072	5,307	14,148	7,076	7,072
17. South Dakota	79	2	23	22	24	22	1,709	1,849	2,186	2,472	3,648	4,638	2,186	2,472
18. West Virginia	154	2	3,627	3,461	3,051	3,220	5,858	6,038	8,004	8,793	11,896	16,887	8,004	8,793
19. Wisconsin	128	25	592	541	626	645	8,431	8,019	13,810	13,744	16,450	27,554	13,810	13,744
20. Wyoming	31	1	258	203	219	202	1,140	1,132	1,189	1,207	2,272	2,306	1,189	1,207
21. Dependents Schools*	16	16												
1948 Totals	2,720*	319	20,200	19,387	21,776	21,807	143,229	145,838	194,493	202,698	286,067	397,191	194,493	202,698
1947	2,691	334												
1946	2,701	324												
1945	2,693	328												
1944	2,688	322												

* Including American Dependents' Schools.

TABLE I (continued)

States	Enrollment Data by Grades											Average per School	
	11			12			Special			Total			
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls		Total
1. Arizona	2,609	2,649	5,248	2,277	2,381	4,658	35	24	59	11,246	11,829	23,075	487.93
2. Arkansas	2,908	3,272	6,180	2,477	2,996	5,473	11	15	26	13,853	15,519	29,372	381.45
3. Colorado	4,987	5,389	10,376	4,367	4,592	8,959	68	45	113	20,038	20,448	40,486	396.82
4. Illinois	33,322	34,942	68,264	30,144	33,553	63,697	894	143	1,037	137,470	143,981	281,451	615.87
5. Indiana	10,701	11,177	21,878	9,815	10,341	20,156	427	97	524	48,241	48,945	97,186	599.91
6. Iowa	7,827	8,490	16,317	7,082	7,913	14,995	189	46	235	29,645	31,865	61,510	357.61
7. Kansas	7,706	8,113	15,819	7,036	7,251	14,287	81	32	113	30,165	30,919	61,084	285.44
8. Michigan	21,118	24,024	45,142	18,263	21,842	40,105	588	650	1,238	82,860	91,714	174,574	718.41
9. Minnesota	8,573	9,257	17,830	7,673	8,926	16,599	51	31	82	27,526	30,181	57,707	480.24
10. Missouri	10,819	11,175	21,994	9,584	10,163	19,747	47	27	74	44,146	45,587	89,733	501.30
11. Montana	1,586	1,720	3,306	1,439	1,565	3,004	12	7	19	6,328	6,765	13,093	353.86
12. Nebraska	5,442	5,573	11,015	5,050	5,179	10,229	17	12	29	21,447	21,988	43,435	287.04
13. New Mexico	1,870	1,939	3,809	1,613	1,643	3,257	14	19	33	7,759	7,937	15,696	322.34
14. North Dakota	1,559	1,932	3,491	1,433	1,699	3,132	4	5	9	6,008	7,007	13,015	209.92
15. Ohio	25,455	26,496	51,951	22,406	24,649	47,055	227	100	327	112,213	115,836	228,049	554.56
16. Oklahoma	6,234	6,420	12,654	5,601	5,857	11,458	189	23	212	21,746	22,033	43,779	338.84
17. South Dakota	2,078	2,151	4,229	1,780	2,369	4,149	16	19	35	7,906	8,904	16,810	207.54
18. West Virginia	6,557	7,429	13,986	5,690	6,605	12,295	114	59	173	32,991	35,605	68,596	439.71
19. Wisconsin	12,428	13,062	25,490	11,689	12,801	24,490	942	346	1,288	48,518	49,158	97,676	638.40
20. Wyoming	1,065	1,199	2,264	985	1,059	2,044	11	9	20	4,867	5,011	9,878	493.50
21. Dependents Schools*												691**	
1948 Totals	174,934	186,400	361,334	156,404	173,384	329,788	3,937	1,799	5,646	714,973	751,232	1,466,896**	485.01
1947			370,876			323,988			9,796			1,496,120	494.60
1946			359,392			300,988			4,608			1,490,699	492.80
1945			348,374			301,907			6,756			1,466,512	493.00
1944			348,770			296,816			8,278			1,466,270	487.00

* Including American Dependents' Schools.

† 6 schools reporting.

TABLE I (continued)

States	Graduates		Days Taught 1946-1947												Library		Number of Schools with Pupil-Teacher Ratio of:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
	Boys	Girls	Total	Less Than 170 to 170												Number of Schools	Librarians		Less Than 14.1 to 14.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
				170 to 170	171 to 170	172 to 170	173 to 170	174 to 170	175 to 170	176 to 170	177 to 170	178 to 170	179 to 170	180 to 170	Full-Time		Part-Time	No	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 to 14.1	14.1 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* Including American Dependents' Schools.

TABLE I (continued)

States	New Staff Members			Salaries of Full Time Teachers in Public Schools											
			Total	Men						Women					
	Men	Women		Less Than 2,400	2,400 to 2,599	2,600 to 2,799	2,800 to 2,999	3,000 or More	Total	Less Than 2,400	2,400 to 2,599	2,600 to 2,799	2,800 to 2,999	3,000 or More	Total
1. Arizona	159	100	259	0	11	15	39	406	471	0	26	22	36	346	430
2. Arkansas	174	268	442	96	42	62	21	155	376	685	55	60	3	4	807
3. Colorado	289	318	607	78	124	129	110	279	720	353	218	120	67	190	948
4. Illinois	876	1,130	2,006	71	143	256	331	3,701	4,472	336	671	657	498	4,160	6,322
5. Indiana	400	304	704	3	72	108	193	1,709	2,085	56	194	197	252	1,603	2,302
6. Iowa	471	464	935	46	81	120	248	748	1,243	449	473	267	175	201	1,565
7. Kansas	469	475	944	40	74	161	212	816	1,303	471	469	320	86	186	1,532
8. Michigan	621	826	1,447	46	115	206	314	2,438	3,119	445	507	456	345	1,905	3,748
9. Minnesota	261	382	643	25	35	109	142	757	1,068	220	280	222	123	638	1,483
10. Missouri	419	474	893	163	126	135	123	677	1,224	767	174	133	96	748	1,918
11. Montana	109	90	199	1	7	18	24	214	264	1	34	45	61	166	307
12. Nebraska	264	324	588	25	64	76	136	324	625	463	371	127	62	237	1,280
13. New Mexico	113	111	224	1	11	26	36	246	320	10	44	80	75	188	397
14. North Dakota	99	137	236	5	16	36	57	134	248	138	97	52	24	4	315
15. Ohio	823	887	1,710	222	321	407	495	2,746	4,191	873	606	569	505	2,272	4,825
16. Oklahoma	287	290	577	197	134	78	67	338	814	759	184	71	84	214	1,312
17. South Dakota	138	174	312	17	35	68	68	183	371	143	164	75	24	35	441
18. West Virginia	249	321	570	249	204	135	180	341	1,109	626	336	295	250	298	1,805
19. Wisconsin	361	426	787	116	116	213	253	1,952	1,750	476	284	225	203	716	1,904
20. Wyoming	76	95	171	0	22	26	30	129	207	23	71	45	45	82	2,266
21. Dependents Schools*	44†														
1948 Totals	6,638	7,596	14,234	1,401	1,753	2,384	3,049	17,393	25,980	7,294	5,258	4,038	3,014	14,303	33,907
1947	8,234	8,149	16,383	5,229	3,078	3,318	2,753	7,580	21,958	16,736	2,710	2,204	1,781	7,075	39,506
1946	5,330	8,662	13,992	5,619	3,066	2,764	1,934	5,234	18,617	21,106	2,242	2,100	1,232	5,908	32,588
1945	4,596	8,809	13,405	7,876	2,610	2,288	1,848	4,045	18,167	21,383	1,649	1,777	1,175	5,392	37,286
1944	5,271	10,292	15,563	10,491	2,162	1,657	1,104	3,483	18,897	24,100	1,251	1,283	1,103	4,862	39,659

* Including American Dependents' Schools.

† 6 schools reporting.

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1948-49

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